THE Journal of the Kansas Medical Society

JUNE
1958

VOL LIX
NO VI

JUN 16 1958

STORMONT MEDICAL LIBRARY
TOPEKA, KANSAS

EFFECTIVE AGAINST A WIDE RANGE OF

CHLOROMYC

COMBATS MOST CLINICALLY IMPORTANT PATHOGENS

In vitro studies continue to show that a wide variety of gram-positive and gram-negative microorganisms are highly sensitive to CHLOROMYCETIN (chloramphenicol, Parke-Davis).[1-9]

Clinically, CHLOROMYCETIN "...has proved to be a particularly valuable agent in urinary tract infections," where it is often effective against microorganisms resistant to other antibiotics.[10] Among other infections against which CHLOROMYCETIN has produced excellent response are severe staphylococcal wound infections,[5] *Hemophilus influenzae*[11] and *Hemophilus pertussis*[12] infections, and dysenteries caused by salmonellae and by shigellae.[12]

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

REFERENCES: (1) Roy, T. E.; Collins, A. M.; Craig, G., & Duncan, I. B. R.: *Canad. M.A.J.* **77**:844 (Nov. 1) 1957. (2) Schneierson, S. S.: *J. Mt. Sinai Hosp.* **25**:52 (Jan.-Feb.) 1958. (3) Hasenclever, H. F.: *J. Iowa M. Soc.* **47**:136, 1957. (4) Rhoads, P. S.: *Postgrad. Med.* **21**:563, 1957. (5) Caswell, H. T., and others: *Surg. Gynec. & Obst.* **106**:1, 1958. (6) Josephson, J. E., & Butler, R. W.: *Canad. M.A.J.* **77**:567 (Sept. 15) 1957. (7) Petersdorf, R. G.; Curtin, J. A., & Bennett, I. L., Jr.: *Arch. Int. Med.* **100**:927, 1957. (8) Waisbren, B. A., & Strelitzer, C. L.: *Arch. Int. Med.* **101**:397, 1958. (9) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* **29**:159, 1957. (10) Murphy, J. J., & Rattner, W. H.: *J.A.M.A.* **166**:616 (Feb. 8) 1958. (11) Neter, E., & Hodes, H. L.: *Pediatrics* **20**:362, 1957. (12) Woolington, S. S.; Adler, S. J., & Bower, A. G., in Welch, H., & Martí-Ibañez, F.: Antibiotics Annual 1956-1957, New York, Medical Encyclopedia, Inc., 1957, p. 365.

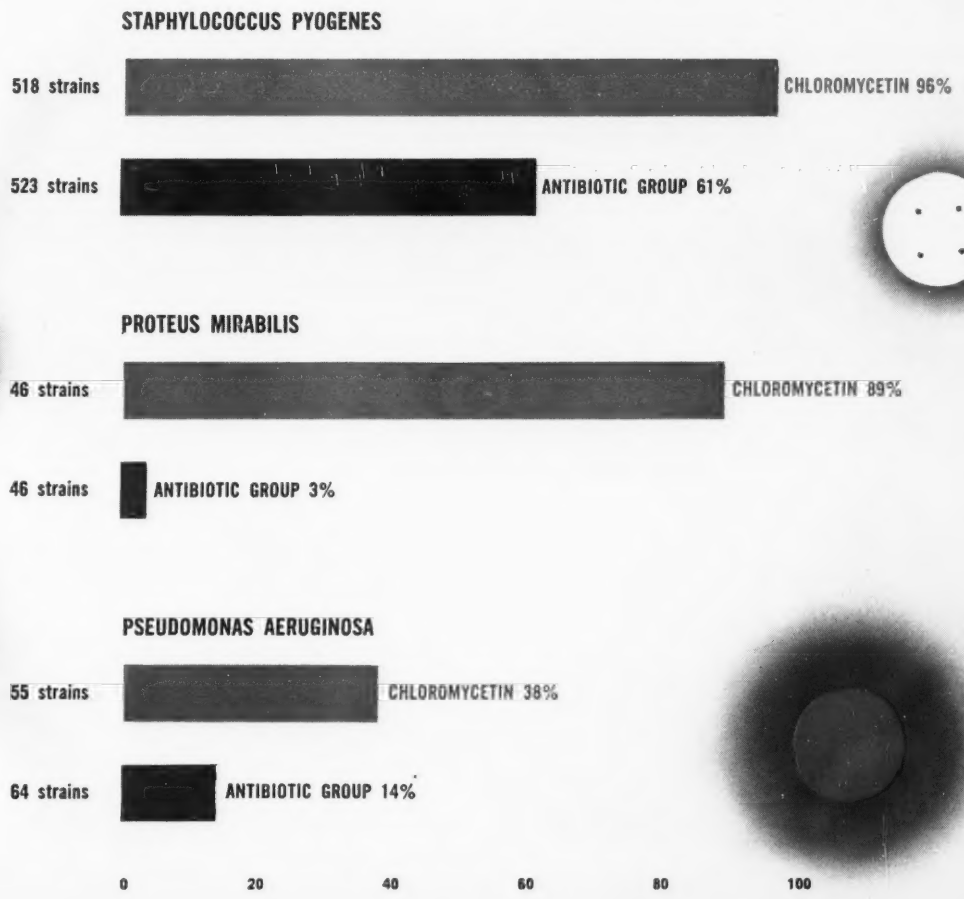
MEDICAMENTA VERA · PD CO.

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

GE OF ORGANISMS

YCETIN®

IN VITRO SENSITIVITY OF THREE COMMON PATHOGENS TO CHLOROMYCETIN AND TO A WIDELY USED ANTIBIOTIC GROUP*



*Adapted from Roy, T. E.; Collins, A. M.; Craig, G., & Duncan, I. B. R.: *Canad. M.A.J.* 77:844 (Nov. 1) 1957.

26656

THE JOURNAL
of the
KANSAS MEDICAL SOCIETY

Volume LIX JUNE, 1958 Number 6

TABLE OF CONTENTS

Original Articles

Acute Coronary Occlusion: Survival Study in Closed-Chest Dogs in Controls, with Hypothermia, and with "Lytic Cocktail"—E. Grey Dimond, M.D., A. Guimpel, M.D., Robert Van Citters, M.D., S. Cardoso, M.D, and T. K. Lin, M.D., Kansas City . . . 249

Ureteral Obstruction: An Unusual Complication of Iliac Aneurysm—H. J. Kornfield, M.D., Kansas City, and M. E. Jacobson, M.D., Wichita 252

Psychiatric Hospitalization: Indications and Contraindications—Paul E. Feldman, M.D., Topeka, Moderator 255

Clinicopathological Conference: Indigestion, Gastrointestinal Hemorrhage, Coma, and Convulsions 271

Aspirin Poisoning in Children: A Review of the Literature (Thesis)—Rachel A. Driver, M.D., Kansas City 278

Editorials

As the Year Ends 265

The Year Ahead 265

Narcotics Registry 266

Miscellaneous

Just Browsing 263

Program of State Institutions at Winfield and Parsons 268

Retrolental Fibroplasia 270

Editorial Board

ORVILLE R. CLARK, M.D., *Editor*, Topeka

DAVID E. GRAY, M.D., Topeka

RICHARD GREER, M.D., Topeka

DWIGHT LAWSON, M.D., Topeka

JOHN A. SEGERSON, M.D., Topeka

Associate Editors

DONALD P. TREES, M.D., Wichita

VERNON E. WILSON, M.D., Kansas City

PAULINE FARRELL, Managing Editor and Advertising Manager

OLIVER E. EBEL, Business Manager

Executive Office: 315 West Fourth Street, Topeka

Ownership: The Journal is a non-profit publication owned and published monthly by the Kansas Medical Society.

Subscription: A year's subscription to the Journal is included in membership in the Kansas Medical Society, with $2.00 of each member's dues apportioned to the Journal. Rates to others, except in foreign countries, $4.00 per year or 60c per copy.

Material: Scientific articles, editorials, and data of general interest are invited from all members. Articles are to be submitted on condition that they are contributed solely to this publication. A right is reserved to reject any material deemed unsatisfactory.

Manuscripts: Only manuscripts that are typewritten on one side, double spaced, and original copies can be accepted. Manuscripts will be returned upon request.

Advertising: All advertising contracts, and all copy from advertisers under contract are subject to approval of the editorial board. Copy should be received by the 15th of the month immediately preceding the month of publication.

Non-Responsibility: Although an effort is made to publish only accurate articles and legitimate advertisements, the Journal denies legal responsibility for any statements, opinions, or advertisements appearing under the names of contributors or concerns.

Entered as second-class matter at the post office at Fulton, Missouri, June 19, 1953, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 2, 1918. Office of Publication: 1201-05 Bluff Street, Fulton, Missouri.

TYPICAL IMFERON RESPONSES

Imferon

INTRAMUSCULAR IRON-DEXTRAN COMPLEX

CHRONIC BLOOD LOSS:

"...this patient did not receive any transfusion of blood or any hematinic other than the intramuscular dose of iron. His initial concentration of hemoglobin measured 5.8 gm. per 100 cc. of blood and in spite of operation [hemorrhoidectomy] and further loss of blood the concentration increased to 12.2 gm. within less than 3 weeks. Concomitantly with the hematologic improvement there was clinical improvement and subsidence of the initial primary symptoms [unusual fatigability, dyspnea, palpitation on exertion]."[1]

INTOLERANCE TO ORAL IRON:

"...she had an excellent response with a reticulocyte peak of 5.3 per cent on the seventh day, and a complete disappearance of the anemia and conversion from hypochromic to normochromic cells by the end of two months. She experienced remarkable improvement in pep and sense of well-being coincident with the alleviation of her anemia."[2]

(1) Hagedorn, A. B.: Proc. Staff Meet. Mayo Clin. **32**:705 (Dec. 11) 1957.
(2) Best, W. R.; Louis, J., and Limarzi, L. R.: M. Clin. North America (Jan.) 1958, p. 3.

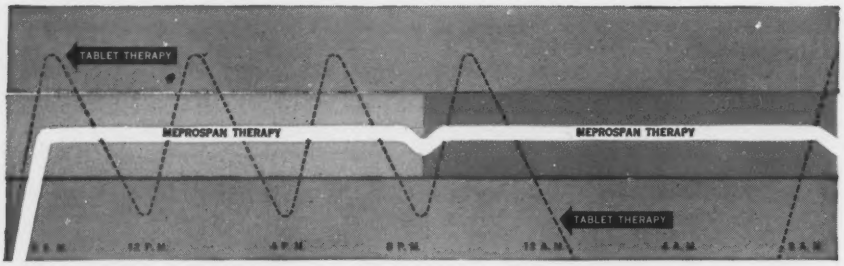
Supplied: 2-cc. and 5-cc. ampuls, boxes of 4. Physician's directions in every box. There are 50 mg. of elemental iron per cc. Request brochure NDA 17, Imferon.

IMFERON® is distributed by Lakeside Laboratories, Inc., under license from Benger Laboratories, Limited.

LAKESIDE

New... meprobamate prolonged release capsules

Evenly sustain relaxation of mind and muscle 'round the clock



TWO MEPROSPAN CAPSULES IN THE MORNING RELIEVE ANXIETY, TENSION AND SKELETAL MUSCLE SPASM THROUGHOUT THE DAY.

TWO MEPROSPAN CAPSULES AT BEDTIME PROVIDE UNINTERRUPTED SLEEP THROUGHOUT THE NIGHT.

Meprospan*

MEPROBAMATE IN **PROLONGED RELEASE** CAPSULES

- maintains constant level of relaxation
- minimizes the possibility of side effects
- simplifies patient's dosage schedule

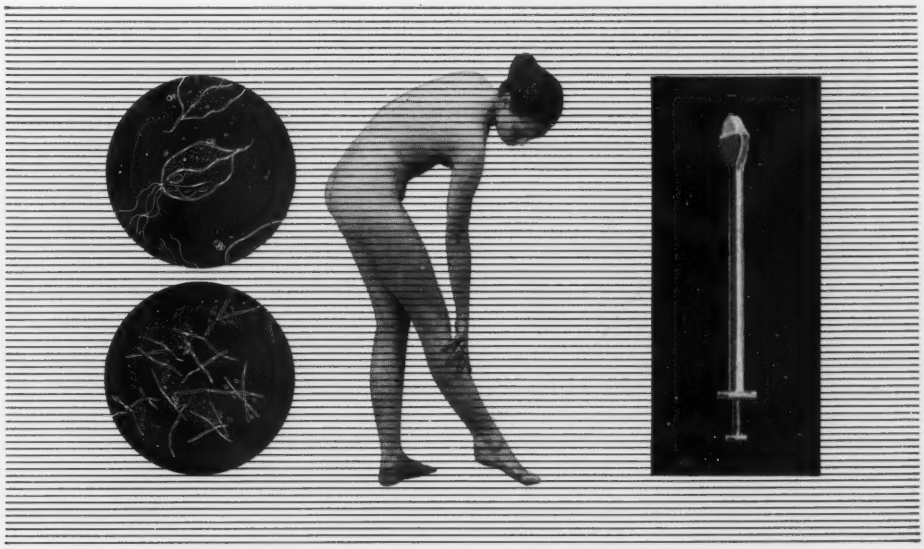
Dosage: Two Meprospan capsules q. 12 h.
Supplied: Bottles of 30 capsules.
Each capsule contains:
Meprobamate (Wallace) .....200 mg.
2-methyl-2-n-propyl-1,3-propanediol dicarbamate

Literature and samples on request.

*TRADE-MARK CME-5000-48

WALLACE LABORATORIES, *New Brunswick, N. J.*

FOR FLAGELLATE AND FUNGAL VAGINITIS



Floraquin®

Destroys Common Vaginal Pathogens; Rebuilds Normal Bacterial Barrier

Whenever a woman complains of vaginal discharge with pruritus, a trichomonal infection[1] must be suspected. Moniliasis, the second most frequent cause[2] of leukorrhea, often occurs[3] in conjunction with diabetes mellitus, pregnancy and estrogen or broad spectrum antibiotic therapy. Commonly used douches wash away normal acid secretions and protective Döderlein bacilli, thus tending to aggravate the problem.

Floraquin, containing Diodoquin® (diiodohydroxyquin, U.S.P.), eliminates infection and provides boric acid and sugar to restore the acidic pH which favors replacement of pathogens by normal Döderlein bacilli. The danger of recurrence is thus minimized.

Pitt reports[2] consistently good results after daily vaginal insufflation of Floraquin powder for three to five days, followed by acid douches and the daily insertion of Floraquin vaginal tablets throughout one or two menstrual cycles.

Intravaginal Applicator for Improved Treatment of Vaginitis—

This smooth, unbreakable, plastic plunger device is designed for simplified insertion of Floraquin tablets by the patient; it places tablets in the fornices and thus assures coating of the entire vaginal mucosa as the tablets disintegrate. A Floraquin applicator is supplied with each box of 50 tablets.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

---

1. Davis, C. H.: Trichomonas Vaginalis Infections: A Clinical and Experimental Study, J.A.M.A. *157*:126 (Jan. 8) 1955.
2. Pitt, M. B.: Leukorrhea, Causes and Management, J.M.A. Alabama *25*:182 (Feb.) 1956.
3. Lang, W. R.: Recent Advances in Vaginitis, Philadelphia Med. *51*:1494 (June 15) 1956.

SEARLE

running noses . . .

caused by pollen allergies

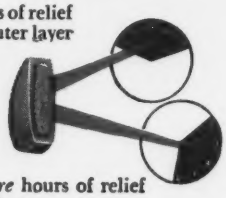
TRIAMINIC stops rhinorrhea, congestion and other distressing symptoms of summer allergies, including hay fever. Running nose, watery eyes and sneezing are best relieved by antihistamine *plus* decongestant action—systemically—with TRIAMINIC.

This new approach frequently succeeds where less complete therapy has failed. It is not enough merely to use histamine antagonists; ideally, therapy must be aimed also at the congestion of the nasal mucosa. Triaminic provides such effective combined therapy in a single timed-release tablet.

TRIAMINIC brings relief in minutes—lasts for hours. Running noses stop, congested noses open—and stay open for 6 to 8 hours.

Triaminic provides around-the-clock freedom from allergic congestion with just one tablet t.i.d. because of the special timed-release design.

first—3 to 4 hours of relief from the outer layer



then—3 to 4 *more* hours of relief from the inner core

Dosage: One tablet in the morning, mid-afternoon and at bedtime. In postnasal drip, one tablet at bedtime is usually sufficient.

Each timed-release TRIAMINIC Tablet contains:

Phenylpropanolamine HCl	50 mg.
Pheniramine maleate	25 mg.
Pyrilamine maleate	25 mg.

TRIAMINIC FOR THE PEDIATRIC PATIENT

TRIAMINIC Juvelets*, providing easy-to-swallow half-dosages for the 6- to 12-year-old child, with the timed-release construction for prolonged relief.

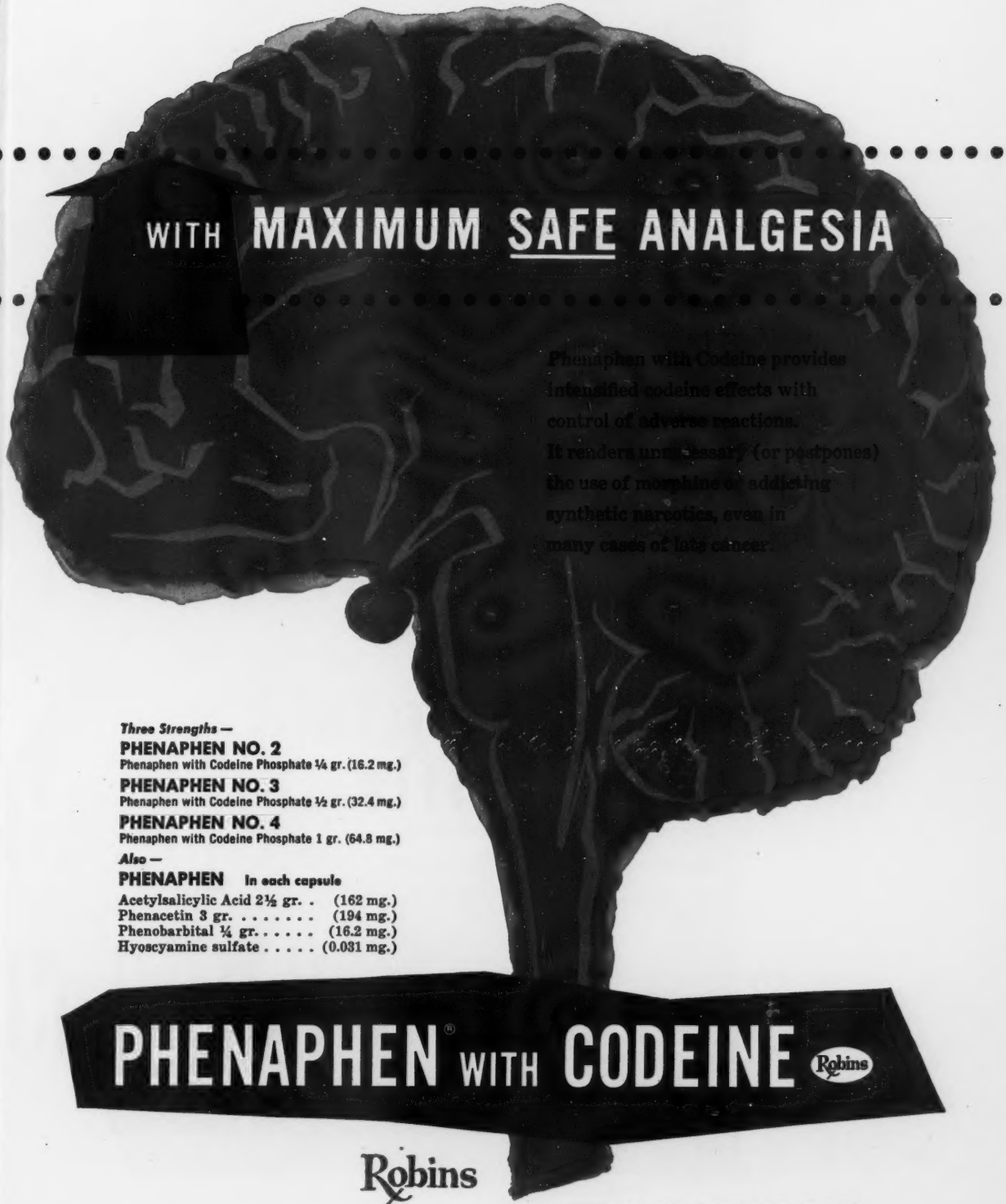
*Trademark.

TRIAMINIC Syrup, for those children and adults who prefer a liquid medication. Each 5 ml. teaspoonful is equivalent to ¼ Triaminic Tablet or ½ Triaminic Juvelet.

Triaminic®

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada

Raise the Pain Threshold



WITH MAXIMUM SAFE ANALGESIA

Phenaphen with Codeine provides intensified codeine effects with control of adverse reactions. It renders unnecessary (or postpones) the use of morphine or addicting synthetic narcotics, even in many cases of late cancer.

Three Strengths —

PHENAPHEN NO. 2
Phenaphen with Codeine Phosphate ¼ gr. (16.2 mg.)

PHENAPHEN NO. 3
Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.)

PHENAPHEN NO. 4
Phenaphen with Codeine Phosphate 1 gr. (64.8 mg.)

Also —

PHENAPHEN In each capsule

Acetylsalicylic Acid 2½ gr. . (162 mg.)
Phenacetin 3 gr. . . . . (194 mg.)
Phenobarbital ¼ gr. . . . . (16.2 mg.)
Hyoscyamine sulfate . . . . . (0.031 mg.)

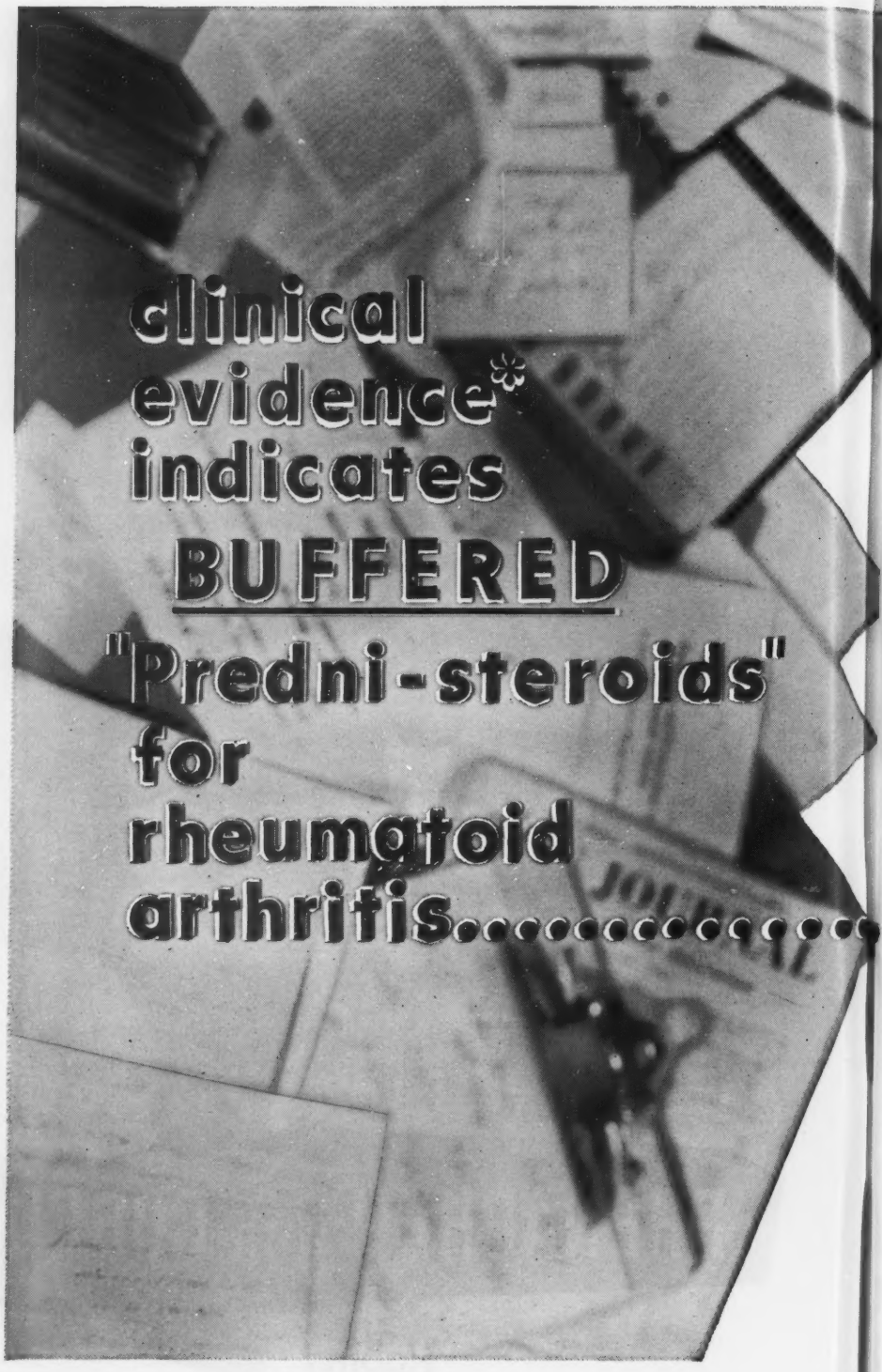
PHENAPHEN® WITH CODEINE

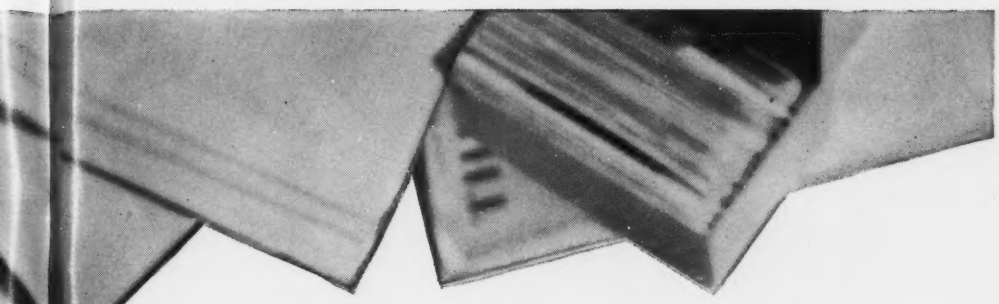
Robins

Robins

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Ethical Pharmaceuticals of Merit since 1878


clinical
evidence*
indicates
BUFFERED
"Predni-steroids"
for
rheumatoid
arthritis.....



Gastric distress accompanying "predni-steroid" therapy is a definite clinical problem — well documented in a growing body of literature.

*"In view of the beneficial responses observed when antacids and bland diets were used concomitantly with prednisone and prednisolone, we feel that these measures should be employed prophylactically to offset any gastrointestinal side effects."—Dordick, J. R. *et al.*: N. Y. State J. Med. 57:2049 (June 15) 1957.

*"It is our growing conviction that all patients receiving oral steroids should take each dose after food or with adequate buffering with aluminum or magnesium hydroxide preparations."—Sigler, J. W. and Ensign, D. C.: J. Kentucky State M. A. 54:771 (Sept.) 1956.

*"The apparent high incidence of this serious [gastric] side effect in patients receiving prednisone or prednisolone suggests the advisability of routine co-administration of an aluminum hydroxide gel."—Bollet, A. J. and Bunim, J. J.: J. A. M. A. 158:459 (June 11) 1955.

One way to make sure that patients receive full benefits of "predni-steroid" therapy plus positive protection against gastric distress is by prescribing CO-DELTRA or CO-HYDELTRA.

Co-Deltra®

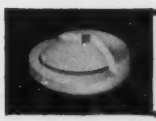
PREDNISONE BUFFERED

multiple compressed tablets

provide all the benefits of "Predni-steroid" therapy— plus positive antacid protection against gastric distress

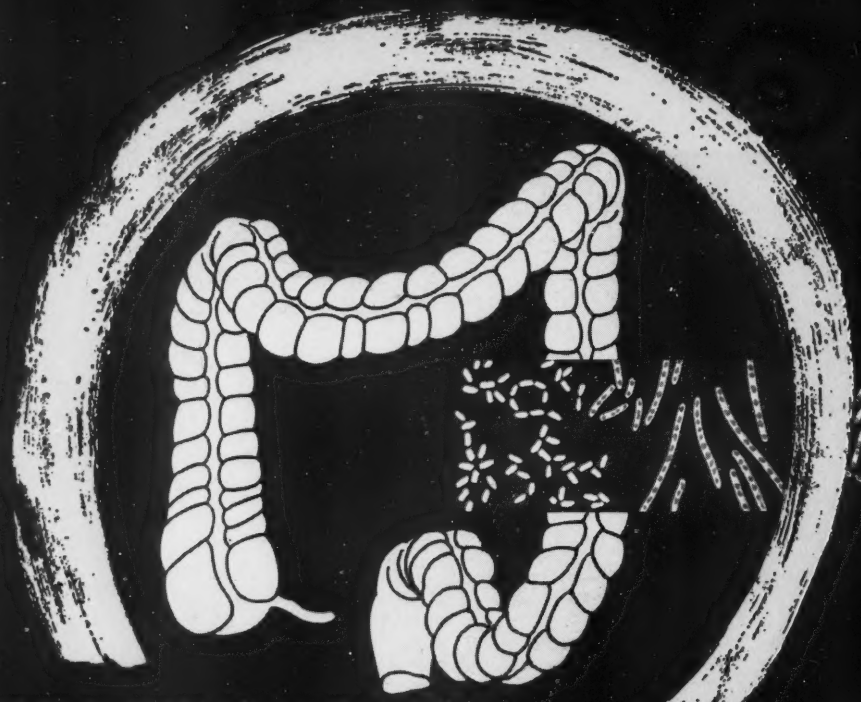
Co-Hydeltra®

PREDNISOLONE BUFFERED



2.5 mg. or 5.0 mg. of prednisone or prednisolone, plus 300 mg. of dried aluminum hydroxide gel and 50 mg. magnesium trisilicate, in bottles of 30, 100, 500.

MERCK SHARP & DOHME Division of MERCK & CO., INC., Philadelphia 1, Pa. MSD



For more certain control of virtually **ALL DIARRHEAS**

DONNAGEL WITH NEOMYCIN

Robins

ANTIBIOTIC • ADSORBENT • DEMULCENT • ANTISPASMODIC

Diarrheas due to neomycin-susceptible pathogens are effectively treated by the highly efficient intestinal antibiotic in DONNAGEL WITH NEOMYCIN, whose other ingredients serve to control toxic, irritative and emotional causes. *Result:* Early re-establishment of normal bowel function.

SUPPLY: Bottles of 6 fl. oz.

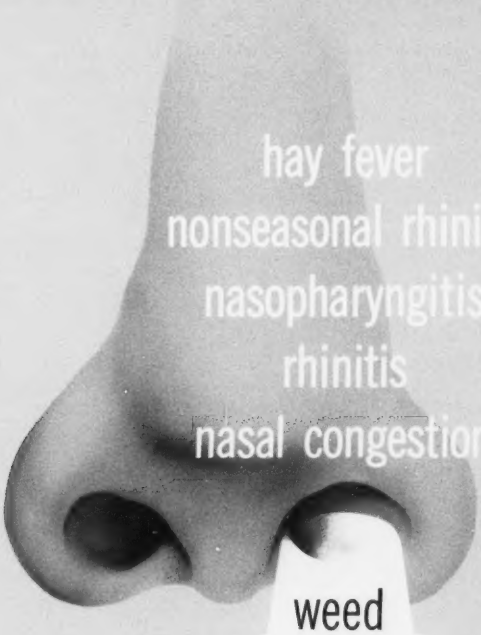
ALSO AVAILABLE: DONNAGEL, the original formula, for use when the antibiotic component is not indicated. Bottles of 6 fl. oz.

Each 30 cc. (1 fl. oz.) of the comprehensive formula of DONNAGEL WITH NEOMYCIN contains:

Neomycin sulfate (Equal to neomycin base, 210 mg.)	300 mg.
Kaolin (90 gr.)	6.0 Gm.
Pectin (2 gr.)	142.8 mg.
Dihydroxyaluminum aminoacetate	0.25 Gm.
Hyoscyamine sulfate	0.1037 mg.
Atropine sulfate	0.0194 mg.
Hyoscine hydrobromide	0.0065 mg.
Phenobarbital (1/4 gr.)	16.2 mg.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Ethical Pharmaceuticals of Merit since 1878



hay fever
nonseasonal rhinitis
nasopharyngitis
rhinitis
nasal congestion

weed
out
budding
allergies
with

METRETON
NASAL SPRAY

METICORTELONE *plus* CHLOR-TRIMETON

unique "Meti" steroid-antihistamine combination

quick nasal clearing—easy breathing within minutes . . . without rebound

shrinks nasal polyps—helps revive sense of smell

prolonged effect—aids drainage, relieves itch, controls discharge . . . lastingly effective

broad range of use—cardiac, hypertensive, pregnant and elderly patients are safe from sympathomimetic vasoconstrictor effects

15 cc. plastic squeeze bottle.

Each cc. of METRETON Nasal Spray contains 2 mg. (0.2%) prednisolone acetate and 3 mg. (0.3%) chlorprophenpyridamine gluconate in a non-irritating isotonic vehicle.

Schering

severe hay fever, pollen asthma, urticaria

perennial rhinitis, allergic dermatoses

resistant allergies respond to

METRETON TABLETS

METICORTEN *and* CHLOR-TRIMETON *with Ascorbic Acid*

response without fail by the systemic route

METRETON Tablets provide uniquely effective antiallergic, anti-inflammatory benefits in hard-to-control allergies. Added ascorbic acid helps counter stress and prevents vitamin C depletion.

safe and well tolerated

METRETON contains METICORTEN, the steroid that does not cause fluid or electrolyte disturbance in average dosage schedules, and CHLOR-TRIMETON, the antihistamine noted for its remarkable record of safety and effectiveness.

Each METRETON Tablet contains 2.5 mg. prednisone, 2 mg. chlorprophenpyridamine maleate and 75 mg. ascorbic acid.

and for the allergic eye

METRETON OPHTHALMIC SUSPENSION

METICORTELONE AND CHLOR-TRIMETON

relieves itching, burning, tearing, edema, congestion

Schering

SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY

Each cc. of METRETON Ophthalmic Suspension contains 2 mg. (0.2%) prednisolone acetate and 3 mg. (0.3%) chlorprophenpyridamine gluconate.

METRETON,® brand of corticoid-antihistamine compound.

METICORTELONE,® brand of prednisolone.

METICORTEN,® brand of prednisone.

CHLOR-TRIMETON,® brand of chlorprophenpyridamine preparations.

Meti—T.M.—brand of corticosteroids.

MT-J-250

Filter Queen

Relieves Respiratory Discomforts Caused by Dust and Dirt Irritants In the Home

Patients with dust allergies frequently experience marked discomfort during home cleaning activities due to dust and dirt in the air. The Filter Queen Home Sanitation System relieves such distress by removing the cause. It operates on an entirely different principle—really two principles in one. First, by means of an unique, exclusive *Sanitary Filter Cone* it actually filters the air, cleans it by aeroscopic action of the smallest particles, even matter as fine as smoke. Second, the Filter Queen *Centrifugal Chamber* traps all matter collected, positively eliminates scattering or dispersion of dust in room air. Unbiased scientific proof of Filter Queen's air purifying efficiency is shown in a recent report* from the Biological Sciences Department of an eastern university which states, *"The Filter Queen cellulose Filter Cone removes practically all dust and atmospheric pollen."* This is another reason why Filter Queen has been selected for use in many of America's leading hospitals.

A Filter Queen demonstration in your home or office can be easily arranged at no obligation by writing or calling your local Filter Queen distributor.

Filter Queen carries the seals of Good Housekeeping Magazine, Rice Leaders of the World, Underwriters' Laboratories, and is advertised in A.M.A.'s "Today's Health."

UL — Listed under Reexamination Service of Underwriters' Laboratories, Inc.

Replacement or Refund of Money — Guaranteed by Good Housekeeping — If not as advertised therein

*Report on file in offices of Health-Mor, Inc., 203 N. Wabash Ave., Chicago 1, Ill.

Investigator

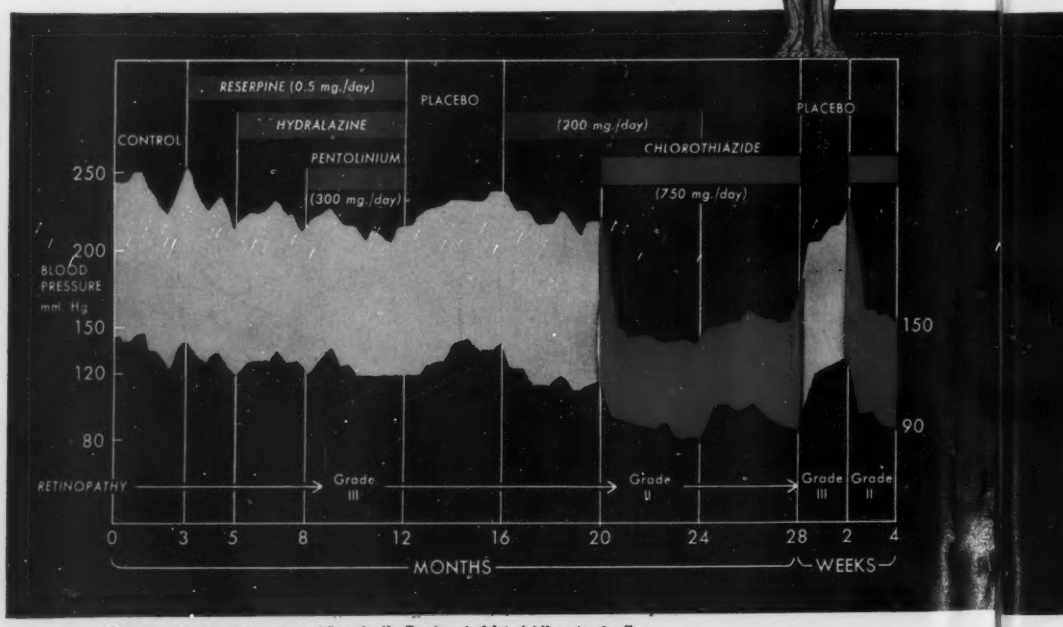
after investigator reports

Wilkins, R. W.: New England J. Med. 257:1026, Nov. 21, 1957.

"Chlorothiazide added to other antihypertensive drugs reduced the blood pressure in 19 of 23 hypertensive patients." "All of 11 hypertension subjects in whom splanchnicectomy had been performed had a striking blood pressure response to oral administration of chlorothiazide." ". . . it is not hypotensive in normotensive patients with congestive heart failure, in whom it is markedly diuretic; it is hypotensive in both compensated and decompensated hypertensive patients (in the former without congestive heart failure, it is not markedly diuretic, whereas in the latter in congestive heart failure, it is markedly diuretic). . . ."

Freis, E. D., Wanko, A., Wilson, I. H. and Parrish, A. E.: J.A.M.A. 166:137, Jan. 11, 1958.

"Chlorothiazide (maintenance dose, 0.5 Gm. twice daily) added to the regimen of 73 ambulatory hypertensive patients who were receiving other antihypertensive drugs as well caused an additional reduction [16%] of blood pressure." "The advantages of chlorothiazide were (1) significant antihypertensive effect in a high percentage of patients, particularly when combined with other agents, (2) absence of significant side effects or toxicity in the dosages used, (3) absence of tolerance (at least thus far), and (4) effectiveness with simple 'rule of thumb' oral dosage schedules."



On "Chlorothiazide: A New Type of Drug for the Treatment of Arterial Hypertension," Hollander, W. and Wilkins, R. W.: Boston Med. Quart. 8: 1, September, 1957.

MERCK SHARP & DOHME Division of MERCK & CO., INC., Philadelphia 1, Pa.

the effectiveness of 'DIURIL' (CHLOROTHIAZIDE) in Hypertension

as simple as 1-2-3

1 **INITIATE THERAPY WITH 'DIURIL'.** 'DIURIL' is given in a dosage range of from 250 mg. twice a day to 500 mg. three times a day.

2 **ADJUST DOSAGE OF OTHER AGENTS.** The dosage of other antihypertensive medication (reserpine, veratrum, hydralazine, etc.) is adjusted as indicated by patient response. If the patient is established on a ganglionic blocking agent (e.g., 'INVERSINE') this should be continued, but the total daily dose should be immediately reduced by as much as 25 to 50 per cent. This will reduce the serious side effects often observed with ganglionic blockade.

3 **ADJUST DOSAGE OF ALL MEDICATION.** The patient must be frequently observed and careful adjustment of all agents should be made to determine optimal maintenance dosage.

SUPPLIED: 250 mg. and 500 mg. scored tablets 'DIURIL' (chlorothiazide); bottles of 100 and 1,000.

'DIURIL' is a trade-mark of Merck & Co., Inc.

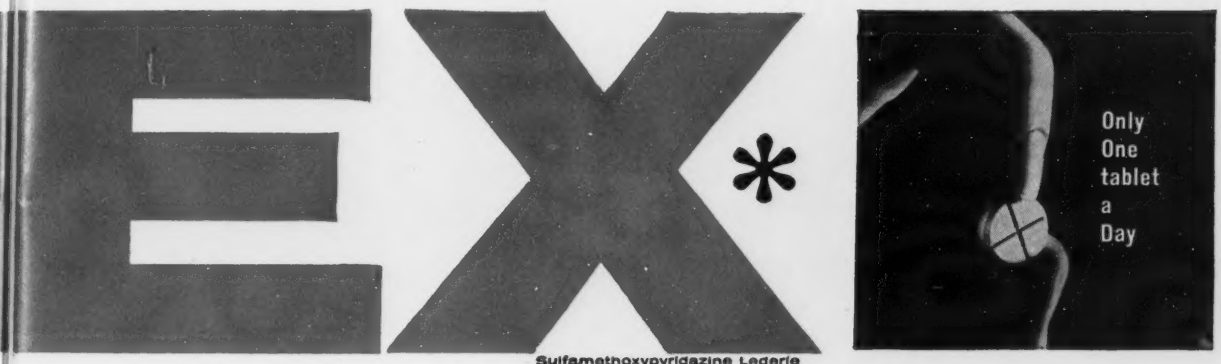
Smooth, more trouble-free management of hypertension with 'DIURIL'

Low Dosage KYNEX for G.U. Infections

Unusual Antibacterial and Anti-infective Properties. More rapid absorption . . . higher and better sustained plasma concentrations . . . more soluble in acid urine than other sulfonamides . . . freedom from crystalluria and absence of significant accumulation of drug, even in patients with azotemia.[1]

Unprecedented Low Dosage. Less sulfa for the kidney to cope with . . . yet fully effective. A single daily dose of 0.5 to 1.0 Gm. (1 to 2 tablets) maintains higher plasma levels than 4 to 6 Gm. daily of other sulfonamides —a notable asset in prolonged therapy.[2]

New Control Over Sulfonamide-sensitive Organisms. KYNEX maintains the prolonged, high tissue concentrations of primary importance in treatment of urinary infections . . . a therapeutic asset toward preventing manifest pyelonephritis as a complication of persistent bacteriuria during pregnancy and puerperium. Maintenance of sterile urine in such patients was accomplished with 1 tablet of KYNEX daily.[3]



Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

KYNEX—WHEREVER SULFA THERAPY IS INDICATED

Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

References: 1. Grieble, H. C. and Jackson, G. G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958. 2. Editorial *New England J. Med.* 258:48-49,1958. 3. Jones, W. F., Jr. and Finland, M., Sulfamethoxypyridazine and Sulfachloropyridazine. *Ann. New York Acad. Sc.* 60:473-483, 1957.

*Reg. U. S. Pat. Off.

Lederle
LEDERLE LABORATORIES
a Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

NEW published reports of clinical studies show:

Decisive skeletal muscle relaxation with

Robaxin®

Methocarbamol Robins U.S. Pat. No. 2770649

"Excellent,"[5] "marked,"[1] "pronounced"[2] or "significant"[6] results in 75.3% of cases of acute skeletal muscle spasm, and moderate results in 20.3% — or an over-all beneficial response in 95.6%. Other important advantages:

- Highly potent and long acting.[2,3,4,6,7,8]
- Relatively free of adverse side effects.[1,2,3,6]
- In ordinary dosage does not reduce normal muscle strength or reflex activity.[6]

Summary of four published clinical studies:

ROBAXIN BENEFICIAL IN 95.6% OF CASES

CONDITION	NO. PATIENTS
STUDY 1[1]	
Skeletal muscle spasm secondary to acute trauma	33
STUDY 2[2]	
Herniated disc	39
Ligamentous strains	8
Torticollis	3
Whiplash injury	3
Contusions, fractures, and muscle soreness due to accidents	5
STUDY 3[5]	
Herniated disc	8
Acute fibromyositis	8
Torticollis	1
STUDY 4[6]	
Pyramidal tract and acute myalgic disorders	30
TOTALS	**138**

tudies:

ASES

OF ACUTE SKELETAL MUSCLE SPASM[1,2,5,6]

NO. PATIENTS	RESPONSE			
	"marked"	*moderate*	*slight*	*none*
33	26	6	1	—
	"pronounced"			
39	25	13	—	1
8	4	4	—	—
3	3	—	—	—
3	2	1	—	—
5	3	2	—	—
	"excellent"			
8	6	2	—	—
8	8	—	—	—
1	—	—	1	—
	"significant"			
0	27	—	2	1
88	104	28	4	2
	(75.3%)	(20.3%)		

Comments on Robaxin by investigators

THE JOURNAL of the American Medical Association

"In the author's clinical experience, methocarbamol has afforded greater relief of muscle spasm and pain for a longer period of time without undesirable side effects or toxic reactions than any other commonly used relaxants . . ."[2]

THE JOURNAL of the American Medical Association

"An excellent result, following methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."[5]

THE JOURNAL of the American Medical Association

"In no instance was there any significant reduction in voluntary strength or intensity of simple reflexes."[6]

Southern Medical Journal

"This study has demonstrated that methocarbamol (Robaxin) is a superior skeletal muscle relaxant in acute orthopedic conditions."[1]

Supply: Robaxin Tablets, 0.5 Gm., in bottles of 50.

●

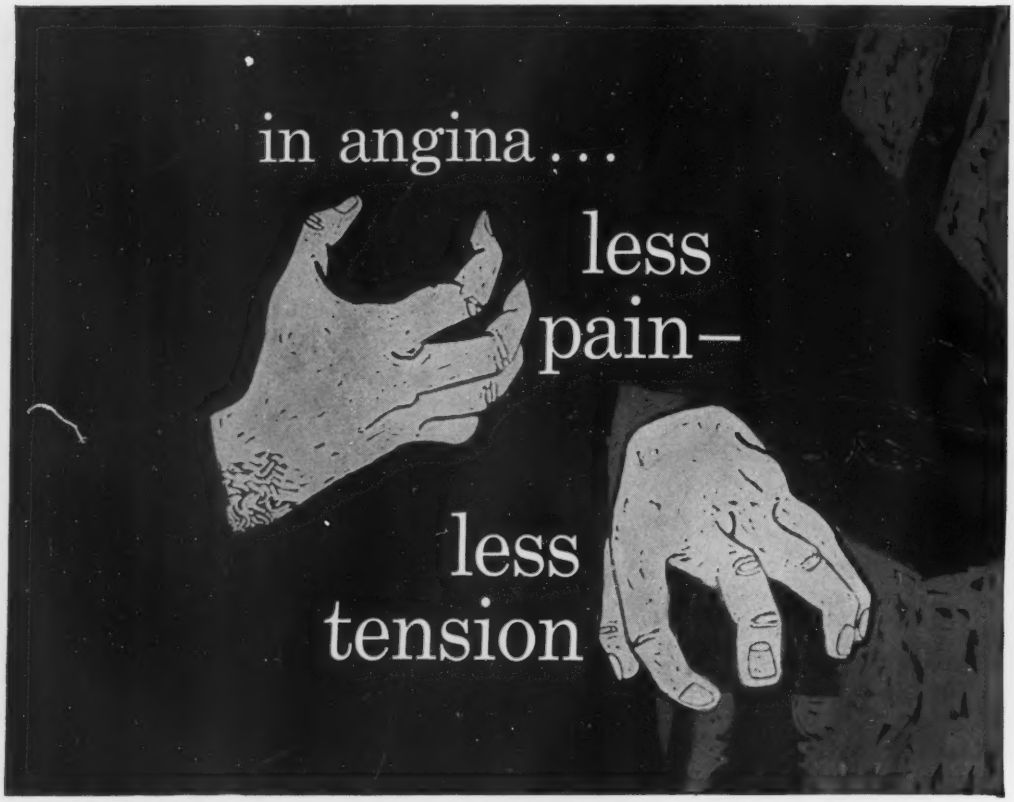
A. H. ROBINS CO., INC., Richmond 20, Virginia

Ethical Pharmaceuticals of Merit since 1878

●

References: 1. Carpenter, E. B.: Southern Medical Journal 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Little, J. M., and Truitt, E. B., Jr.: J. Pharm. & Exper. Therap. 119:161, 1957. 4. Morgan, A. M., Truitt, E. B., Jr., and Little, J. M.: J. Am. Pharm. Assn., Sci. Ed. 46:374, 1957. 5. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 6. Park, H. W.: J.A.M.A. 167:168, 1958. 7. Truitt, E. B., Jr., and Patterson, R. B.: Proc. Soc. Exper. Bio. & Med. 95:422, 1957. 8. Truitt, E. B., Jr., Patterson, R. B., Morgan, A. M., and Little, J. M.: J. Pharm. & Exper. Therap. 119:189, 1957.

Robins



with new

CARTRAX*

PETN + ATARAX®

(PENTAERYTHRITOL TETRANITRATE) (BRAND OF HYDROXYZINE)

why PETN? *For cardiac effect:* PETN is ". . . the most effective drug currently available for prolonged prophylactic treatment of angina pectoris."[1] Prevents about 80% of anginal attacks.

why ATARAX? *For ataractic effect:* One of the most effective—and probably the safest—of tranquilizers, ATARAX frees the angina patient of his constant tension and anxiety. Ideal for the on-the-job patient. And ATARAX has a unique advantage in cardiac therapy: it is anti-arrhythmic and non-hypotensive.

why combine the two? *For greater therapeutic success:* In clinical trials, CARTRAX was demonstrably superior to previous therapy, including PETN alone. Specifically, 87% of angina patients did better. They were shown to suffer fewer attacks . . . require less nitroglycerin . . . have increased tolerance to physical effort . . . and be freed of cardiac fixation.

1. Russek, H. I.: Postgrad. Med. *19*:562 (June) 1956.

Dosage and Supplied: Begin with 1 to 2 yellow CARTRAX "10" tablets (10 mg. PETN plus 10 mg. ATARAX) 3 to 4 times daily. When indicated this may be increased by switching to pink CARTRAX "20" tablets (20 mg. PETN plus 10 mg. ATARAX.) For convenience, write "CARTRAX 10" or "CARTRAX 20." In bottles of 100.

CARTRAX should be taken 30 to 60 minutes *before* meals, on a continuous dosage schedule. Use PETN preparations with caution in glaucoma.

NEW YORK 17, NEW YORK
Division, Chas. Pfizer & Co., Inc.

*Trademark

X-RAYS SHOW HOW ONE PYRIBENZAMINE® LONTAB®

relieves allergy all day or all night

The unretouched X-ray films show how Lontabs release medication in the digestive tract. So that the prolonged erosion of the Lontab core could be visualized by X-ray, subject was given 10 Lontabs, each containing 100 mg. of a radiopaque substance in place of Pyribenzamine.

2 hours Lontabs are in the stomach and small bowel. Release of core substance is well under way.

4 hours Lontabs are in the ileum and cecum as core has steadily eroded.

8 hours Lontabs are still visible as substance of core continues to be released.

With its unique formulation, the Pyribenzamine Lontab not only relieves allergy symptoms promptly, but sustains relief as long as 12 hours.

Special outer shell releases 33 mg. Pyribenzamine hydrochloride within 10 minutes.

Unique core releases approximately 18 mg. Pyribenzamine hydrochloride the 1st hour, approximately 50 mg. from the 2nd to the 12th hour.

SUPPLIED: Pyribenzamine *Lontabs* — full-strength — 100 mg. (light blue).

NOW AVAILABLE: Pyribenzamine *Lontabs* — half-strength — 50 mg. (light green) — for children over 5 and for adults who require less antiallergic medication.

PYRIBENZAMINE® hydrochloride (tripelennamine hydrochloride CIBA)
LONTABS® (long-acting tablets CIBA)

®/2562HH

CIBA SUMMIT, N. J.

FIRST—clinically confirmed for better management of psychotic patients

NOW—clinically confirmed as an improved antiemetic agent

VESPRIN

Squibb Trifluopromazine

PROMPT, POTENT and LONG-LASTING ANTIEMETIC ACTIVITY

Clinical investigators report that in clinical studies*

Post-operatively	After Nitrogen Mustard Therapy	In Chronic Nausea and Vomiting	In Infections, Intra-abdominal Disease, and Carcinomatosis	In Neurosurgical Diagnostic Procedures	In Pregnancy When Vomiting Is Persistent

VESPRIN

- showed potent antiemetic action
- completely relieved nausea and vomiting in small intravenous doses
- showed a prolonged antiemetic effect
- caused little or no pain at injection site
- controlled chronic nausea and vomiting in orally administered doses
- produced relief in certain cases refractory to other antiemetics
- often markedly depressed or abolished the gag reflex
- effectively terminated the hard-to-control nausea and vomiting common to nitrogen mustard therapy
- provided prophylaxis against the nausea and vomiting associated with pneumoencephalography

*Reports to the Squibb Institute for Medical Research

antiemetic dosage: *Intravenous route*—8 mg. average single dose; dosage range 5 to 10 mg.
Intramuscular route—15 mg. average single dose; dosage range 5 to 15 mg.
Oral route—10 to 20 mg. initially, subsequently 10 mg. t.i.d.

supply: *Parenteral Solution*—1 cc. ampuls (20 mg./cc.)
Oral Tablets—10 mg., 25 mg., 50 mg., in bottles of 50 and 500

SQUIBB *Squibb Quality—the Priceless Ingredient*

"VESPRIN" IS A SQUIBB TRADEMARK

NOW...A NEW TREATMENT

'CARDILATE'*

for THE PROPHYLAXIS OF ANGINA PECTORIS

'Cardilate' tablets shaped for easy retention in the buccal pouch

"... the degree of increase in exercise tolerance which sublingual erythrol tetranitrate permits, approximates that of nitroglycerin, amyl nitrite and octyl nitrite more closely than does any other of the approximately 100 preparations tested to date in this laboratory."

"Furthermore, the duration of this beneficial action is prolonged sufficiently to make this method of treatment of practical clinical value."

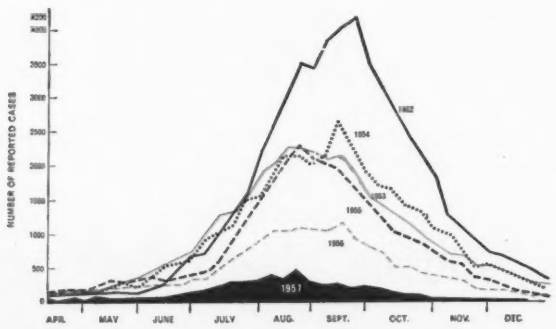
Riseman, J. E. F., Altman, G. E., and Koretsky, S.: Nitroglycerin and Other Nitrites in the Treatment of Angina Pectoris, Circulation (Jan.) 1958.

*'Cardilate' brand Erythrol Tetranitrate SUBLINGUAL TABLETS, 15 mg. scored

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

A MIRACLE IN OUR TIME?

At the last accounting,[1] physicians throughout the country had administered at least one dose of poliomyelitis vaccine to 64 million Americans—all three doses to an estimated 34 million. Undoubtedly, these inoculations have played a major part in the dramatic reduction of paralytic poliomyelitis in this country.



Incidence of polio in the United States, 1952-1957
(data compiled from U.S.P.H.S. reports)

vaccine is plentiful for the job remaining

There are still more than 45 million Americans under forty who have received no vaccine at all and many more who have taken only one or two doses.

As it was phrased in a public statement by the Department of Health, Education, and Welfare:

> *"It will be a tragedy if, simply because of public apathy, vaccine which might prevent paralysis or even death lies on the shelf unused."*[2]

Eli Lilly and Company is prepared to assist you and your local medical society to reach those individuals who still lack full protection. *For information see your Lilly representative.*

1. *J. A. M. A.*, 165:21 (*November 23*), *1957.*
2. *Department of Health, Education, and Welfare: News Release, October 10, 1957.*

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A.
84900B

Lilly
QUALITY / RESEARCH / INTEGRITY

The JOURNAL *of the*
KANSAS MEDICAL SOCIETY

Copyright, 1958, by the Kansas Medical Society

Volume LIX **JUNE, 1958** **No. 6**

Acute Coronary Occlusion

Survival Study in Closed-Chest Dogs in Controls, with Hypothermia, and with "Lytic Cocktail"

E. GREY DIMOND, M.D.; A. GUIMPEL, M.D.; ROBERT VAN CITTERS, M.D.; S. CARDOSO, M.D., *and* T. K. LIN, M.D., *Kansas City*

The possible use of hypothermia during the acute stage of coronary occlusion as a means of decreasing the work of the heart is attractive. Selman and Brofman studied this approach in 10 dogs cooled to 25° 27° C.[1] Under these conditions, experimental ligation of the coronary artery was uniformly fatal. The mortality rate in their control dogs was 50 per cent, in their hypothermic dogs 100 per cent.

Another possible approach to the treatment of the acute stage of a coronary occlusion has been suggested by Lian.[2] In a paper entitled "Artificial Hibernation in Coronary Occlusion and Cardiovascular Surgery," Lian suggested "artificial hibernation" by use of the Laborit "lytic cocktail" for the treatment of acute myocardial infarction. For example, in management of acute experimental occlusion, Lian indicated that he had never seen paroxysmal ventricular tachycardia after coronary ligation under artificial hibernation.

Method

The reliability of induced coronary occlusion in dogs as an experimental method is debated. Mortality and morbidity have varied over a wide range. Slight differences in technique have resulted in inexplicable differences in survival. Our own attempt to obtain a "standard" canine coronary occlusion is as follows:

First Stage. All dogs were anesthetized with intravenous Demerol 10 mg. per kg.; Nembutal 10-15 mg. per kg.; 100 per cent oxygen was administered by intratracheal intubation. A left thoracotomy was performed in the fourth interspace. The pericardium was opened and the anterior descending branch of the left coronary artery, immediately distal to the circumflex branch, was dissected and isolated. A No. 4 silk thread was placed beneath it and a loose tie was formed around it. The ends of the tie were brought through the chest wall at rib interspaces above and below the incision. The free ends of the

Aided by grants from the Kansas Heart Association.

A two-stage operation resulting in an acute coronary occlusion in a closed-chest dog obtained the following results:

Control group (21 dogs)	**29%**	**Survivors**
Hypothermia to 30° C by Rectum (10 dogs)	**0%**	**Survivors**
"Lytic cocktail" (10 dogs)	**0%**	**Survivors**

In dogs using this experimental method, neither hypothermia to 30° C. nor the "lytic cocktail" has a beneficial influence upon dog survival. In fact, with this experimental technique, these procedures seem to be detrimental to the animal's survival.

tie were buried beneath the skin and fixed by sutures. In each case, care was given in placing the silk thread on the anterior descending coronary artery proximal to the large septal branch and distal to the circumflex branch. The chest was closed in a routine manner, the lungs re-expanded, and the dog was returned to the kennel. Penicillin was given. Electrocardiograms were made and serum glutamic oxalacetic transaminase studies were done before and daily after the thoracotomy. After a two-week period of convalescence, the dogs were divided into three groups for a second stage procedure.

Second Stage. Forty-one dogs were prepared as described in the first stage and then divided into three groups:

Group 1: (21 dogs) Chlorpromazine 50 mg., Demerol 100 mg. and Nembutal 120 to 180 mg. were used as anesthetic agents. Each dog was normothermic. The buried ends of the loose ligature were dissected free and the ends pulled until the ligature about the coronary artery was tightly closed. Electrocardiograms were taken before the procedure and continuously thereafter for 15 minutes. A serum transaminase sample and electrocardiogram were obtained every three hours for the first 24 hours, and every eight hours for the next 48 hours, and then daily for ten days.

Group 2: (10 dogs) With the same anesthesia as described for Group 1, but with the animal cooled to 30° C. (rectally), the coronary artery was ligated. This temperature was obtained by immersing the animal in running water. Transaminase and electrocardiogram studies were carried out as described for Group 1.

Group 3: (10 dogs) No premedication was given to dogs prior to the administration of the "lytic cocktail." The composition of the "lytic cocktail" consisted of 100 to 300 mg. of chlorpromazine, 100 to 150 of Phenergan and 100 to 150 mg. of Demerol mixed in 250 cc. of 5 per cent dextrose solution. It was administered intravenously for a period of about three hours. During this time 2 cc. of the following

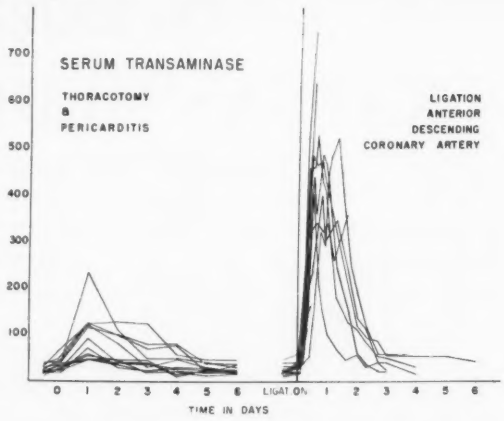


Figure 1

mixture was given every 15 minutes through the intravenous drip: 100 to 180 mg. chlorpromazine, 50 to 75 mg. of Phenergan and 50 to 75 mg. of Demerol in 12 cc. of saline. After the disappearance of muscular rigidity and relaxation of the animal, and as soon as the rectal temperature reached a level of 35 to 37, the coronary artery ligation was carried out. The doses varied from animal to animal. However, the average total dose was 29 mg. of chlorpromazine, 14.5 of Phenergan, and 14.5 of Demerol. The exact doses of "lytic cocktail" in these 10 dogs are shown in Table I at the bottom of this page.

Results and Comments

First Stage. (41 dogs) As a by-product of the experiment, we noted the effect of thoracotomy and surgical pericarditis on the serum glutamic oxalacetic transaminase. This information is charted in Figure 1. Serum transaminase rises occurred in every case and lasted from one to four days. In six dogs, elevation was greater than 100 serum transaminase units, and in one animal a level of 235 SGOT units was found on the second postoperative day. The question

Dog No.	*Dog Wt.* (KG.)	*Chlorpromazine* TOTAL	MG./KG.	*Phenergan* TOTAL	MG./KG.	*Demerol* TOTAL	MG./KG.
1	8	400	50	200	25	200	25
2	8.5	400	47	200	23	200	23
3	12.0	330	27.5	140	11.6	140	11.6
4	10	300	30	150	15	150	15
5	12	200	15.8	100	8.3	100	8.3
6	12	280	23.3	140	11.6	140	11.6
7	11	300	27.1	150	13	150	13
8	13	250	19.2	150	11.2	150	11.2
9	10	300	30	150	15	125	12.5
10	11	250	22.5	125	11.3	125	11.3
Average			29.2		14.5		14.5

TABLE I

RESPONSE OF SERUM TRANSAMINASE TO LIGATION OF ANTERIOR DESCENDING CORONARY ARTERY

Dog No.	Base Reading	Rise Begins	PEAK		Return to Normal
			Units	Time	
10	25	6 h	485	12-21 h	36
12	10	3 h	845	12 h	
13	15	9 h	405	12 h	36
16	40	8 h	365	12-36 h	
18	20	4 h	530	9-20 h	36
20	15	6 h	750	12 h	
24	20	6 h	352	12 h	
25	50	6 h	137	8 h	
27	10	6 h	400	8-27 h	36
29	20	6 h	400	15 h	34
32	15	15 h	520	30 h	24
33	20	6 h	370	9 h	

Figure 2

might be raised of whether our surgical dissection of the coronary artery did not destroy sufficient myocardial tissue to account for these elevations above the 100 SGOT units. This seems unlikely in view of the small amount of actual muscle dissection necessitated by our procedure. Another possible source of muscle necrosis might be in the clamping and retraction of the auricular appendage. We did not do a sham operation to eliminate this possibility.

Second Stage. Group 1: (21 dogs, normo-thermic but under moderate anesthesia) Six dogs survived the ligation. Eight dogs died immediately (within 10 minutes), and the remaining seven dogs died within a short period, ranging from 1 to 36 hours. The terminal event was always ventricular fibrillation. Elevation of the serum transaminase began from 3 to 15 hours after ligation and (the six survivors) persisted for a period of two or three days. The range of elevation varied from 365 to 750 units. The peak reading, on the average, occurred from 12 to 36 hours following the ligation.

Group 2: (10 dogs at 30° C.) There were no survivals in this hypothermic group. Seven dogs succumbed within five minutes and three dogs survived 7, 10, and 15 hours respectively after the acute occlusion. The serum transaminase levels in these dogs during their short survival rose to 200, 150, and 70 SGOT units, respectively.

Group 3: (10 dogs, with "lytic cocktail") All 10 dogs died in a few minutes except one which lived for 48 hours after the occlusion. Death was always due to ventricular fibrillation.

Cardiovascular Section
Department of Medicine
University of Kansas Medical Center
Kansas City 12, Kansas

References

1. Selman, M. W., and Brofman, B. L.: The effect of hypothermia on survival rates following coronary occlusion in dogs, Surg. 37:707, 1955.
2. Lian C.: L'hibernation artificielle dans les obliterations coronariennes et en chirurgie cardio-vasculaire (recherches experimentales et perspectives cliniques), Sem. hop. Paris 29:4171-4174 (Dec. 26) 1953.
3. Erichsen, J.: Influence of the coronary circulation on the action of the heart, London Med. Gaz. 1842, ii,561.
4. Smith, F. M.: The ligation of coronary arteries: An electrocardiographic study, Arch. Int. Med. 22:8, 1918.
5. McEachern, C. G.; Manning, G. W., and Hall, G. E.: Sudden occlusion of coronary arteries following removal of cardiosensory pathways, Arch. Int. Med. 65:661, 1940.
6. LeRoy, G. V., and Snider, S. S.: The sudden death of patients with few symptoms of heart disease, J.A.M.A. 117:-2019, 1941.
7. Burchell, H. B.: Adjustments in coronary circulation after experimental coronary occlusion, Arch. Int. Med. 65:-240, 1940.
8. Milch, E.; Zimdahl, W. T.; Egan, R. W.; Hsia, T. W.; Anderson, A. A., and David, J.: Experimental prevention of sudden death from acute coronary artery occlusion in the dog, Am. Heart Journal 50:483, 1955.
9. Bakst, A. A.; Costas-Durieux, J.; Goldberg, H., and Bailey, C. P.: Protection of the heart by arterialization of the coronary sinus, J. Thoracic Surg. 27:433, 1954.
10. Beck, C.; Stanton, E.; Batiuchok, W., and Leiter, E.: Revascularization of the heart by graft of systemic artery into coronary sinus, J.A.M.A. 137:436, 1948.
11. Carter, N. B.; Gall, E. A., and Wadsworth, C. L.: An experimental study of collateral coronary circulation produced by cardiopneumonopexy, Surg. 25:489, 1949.
12. Chardack, W. M.; Bolgan, F. J.; Olson, K. C.; Gage, A. A., and Farnsworth, W. E.: The mortality following ligation of the anterior descending branch of the left coronary artery in dogs, Ann. Surg. 141:443, 1955.

The new era of material progress which means so much to all of us was not built on expediency. It was built on vision and incentive and moral stamina. It was built by a partnership in the development, in every corner and at every level, of the principle of man's humanity to man. We have prospered as a people because somewhere along the line we determined to be fair to each other.

—*Maurice R. Franks*

Ureteral Obstruction

An Unusual Complication of Iliac Aneurysm

H. J. KORNFIELD, M.D., ***Kansas City,*** **and M. E. JACOBSON, M.D.,** ***Wichita***

Obstructive uropathy due to aneurysmal disease of the abdominal aorta and its branches would seem to be not an unusual occurrence because of the anatomical relationship of these structures; yet little mention of this phenomenon can be found in the American medical literature. The occurrence of two cases in a six-month period in a relatively small hospital (250 beds) has prompted the present report, particularly since the two cases illustrate both acute and chronic ureteral obstruction as well as reversal of uropathy in one case.

Review of Literature

Urologic textbooks hardly mention this cause of obstructive uropathy. Lowsly and Kirwin's *Clinical Urology* states that extraureteral masses may produce mechanical pressure on the ureter, but it makes no mention of abdominal aneurysm acting as such a mass; and aortic aneurysm is not listed by them as a cause of hydronephrosis.

Braasch and Emmett's *Clinical Urography* states, "Vascular lesions such as calcification, occlusion, aneurysms, and A-V fistulas may encroach on or involve the urinary tract in exceptional cases. Such lesions, when of urographic or clinical importance, are distinctly rare." These authors include a photograph of an x-ray (No. 1308) showing displacement of the upper and mid-ureter by an aneurysm with proximal dilatation of the renal collecting system.

Frank Hinman, Jr., in Campbell's *Urology* states, "We have recently seen such a rare etiologic agent as an aneurysm of the abdominal aorta," in the course of discussing the causes of hydronephrosis. And Dodson's *Urological Surgery* makes no mention of this condition.

Shumacker and Barrett[6] reported a case of obstructive uropathy due to aneurysmal disease in 1955. Review of literature since then reveals no further articles specifically dealing with this subject, despite a voluminous amount of material on aneurysmal disease within this period.

From the Department of Surgery, University of Kansas Medical Center, Kansas City, Kansas, and the Veterans Administration Hospital, Wichita, Kansas.

Anatomy

The ureter, a fibromuscular tube passing from the renal pelvis to the bladder, runs an oblique course in the retroperitoneal space, lying in intimate contact with the other retroperitoneal structures of importance. As it passes into the pelvis it crosses anterior to the common iliac artery, most usually just proximal to the bifurcation of that vessel. On the right, the ureter is separated from the (normal) aorta by the inferior vena cava, whereas on the left the two structures lie side by side. Narrowing of the ureter where it crosses the common iliac is considered physiologic.

Two patients with significant ureteral obstruction caused by aneurysm of the abdominal aorta are presented. This type of obstructive uropathy may develop acutely or chronically, and may cause symptoms which bring the patient to the physician. Attention is directed to aneurysmal disease as a cause of obstructive uropathy. The literature on the subject is briefly reviewed. Intravenous pyelograms showing the occurrence of acute obstruction in a three-day period are presented.

Case 1

Case 1 illustrates chronic obstruction of both ureters by bilateral iliac aneurysm with uremia due to hydronephrosis. Despite ante mortem diagnosis, death ensued because of the advanced nature of uropathy.

A 62-year-old white male was admitted to Wichita Veterans Administration Hospital on July 16, 1957, on referral by a local physician with the diagnosis of "abdominal tumor." The patient had developed generalized edema in March, 1957, and was hospitalized and treated with digitalis and diuretics. The mass was apparently first discovered after subsidence of the edema in June. The patient complained of lethargy but otherwise felt well.

Physical examination revealed an alert, well developed male appearing ill. Positive findings included a 6 x 8 inch pulsatile midline mass in the abdomen. Pertinent laboratory work on admission revealed a blood urea nitrogen of 93 mgm. per cent, creatinine 5.25 mgm. per cent, and hemoglobin 7.75 gm. per cent. Retrograde pyelograms were attempted but the right ureteral orifice could not be found, and a catheter was passed into the left ureter only with considerable difficulty. Marked hydronephrosis was revealed by the left retrograde pyelograms.

Surgery for resection of the aneurysm was considered but it was felt the patient could not tolerate the procedure because of his rapidly progressing uremia, as evidenced by a rising blood urea nitrogen. Consequently, on July 31, 1957, in an attempt to improve his renal status, a bilateral ureterostomy was performed. No function was present, however, on the right side. Despite careful supportive therapy the patient's condition steadily deteriorated as the blood urea nitrogen climbed to 223 mgm. per cent, and the patient expired on August 9, 1957.

Autopsy examination revealed the right kidney to weigh 150 Gms. and the left kidney to weigh 500 Gms. Cut section of the left kidney revealed numerous purulent abscesses with dilatation of the collecting system. The ureter was dilated with obstruction of the lumen at the point where it crossed the lower portion of the aneurysm. The right kidney showed advanced hydronephrosis with only a thin rim of renal substance remaining. The right ureter also showed obstruction of its lumen where it crossed over the surface of the aortic aneurysm. The aorta showed an aneurysm above the bifurcation which extended into both internal and external iliac arteries.

Case 2

Case 2 illustrates acute ureteral block with the clinical picture of acute pyelonephritis. This acute blockage is substantiated by intravenous pyelograms taken three days apart. This case also demonstrates the effect of proper management of this condition.

The patient, a 67-year-old white male, retired farmer, was admitted to Wichita Veterans Administration Hospital on December 16, 1957, with the chief complaint of abdominal pain. The symptom had been present for three weeks prior to admission. This pain varied from sharp to dull in character, was located in the lower abdomen with emphasis on the right side, and occasionally was associated with stabbing radiation into the right groin. It was completely unrelated to the gastrointestinal tract by symptomatology. There were no urinary difficulties or symptoms.

During a previous admission in September, 1957, a transurethral resection for benign prostatic hypertrophy was accomplished without incident, and the postoperative course was uneventful. Past history and system review were otherwise non-contributory.

Positive physical findings were limited to the abdomen where a 4 cm. pulsatile mass was felt in the right lower quadrant. It was somewhat tender to palpation. Femoral and pedal pulses were within normal limits bilaterally. Blood pressure was 150/100.

Initial laboratory studies revealed a hemoglobin of 12.6 Gms. and a white blood count of 8,750 with 65

Figure 1. Intravenous pyelograms taken on December 17, 1957. At left, 5-minute film; center, 15-minute film; right, 30-minute film.

per cent neutrophils. Urinalysis was negative except for many white blood cells per high power field in the sediment (a usual finding this soon following a transurethral resection). The blood urea nitrogen was 16 mgm. per cent.

Intravenous pyelograms on December 17, 1957, revealed prompt bilateral filling and essentially an identical view to pyelograms obtained approximately two months previously (Figure 1). While in retrospect one might say that the right ureter was displaced to a minor degree, this finding was not thus interpreted by the radiologist or urologist when read.

On December 18, 1957, this patient developed chills and fever with temperature elevation to 101.8. No instrumentation had been done. The white blood count remained normal and the chest film was unchanged from a previous film. There were no subjective urinary tract findings with this illness and there was no suprapubic tenderness or costovertebral angle tenderness. Despite vigorous antibacterial treatment the temperature elevation and chills continued. On December 20, 1957, immediately prior to a proposed aortic resection and graft, an intravenous pyelogram was obtained. This series of films (Figure 2) revealed delayed filling in the right upper tract with obvious hydronephrosis in the 30-minute film.

Following these x-rays a No. 7 ureteral catheter was inserted into the right kidney pelvis. Some obstruction was felt as the catheter was passed along the proximal ureter with difficulty. When it reached the upper urinary tract there was an immediate egress of urine under obvious increased pressure. Examination of this urine revealed many clumps of pus cells and active bacteria. Culture revealed the presence of E. coli.

With the ureteral catheter in place the patient was taken to the operating room and a dumbbell shaped aortic aneurysm involving the right common iliac artery and aorta was resected with insertion of an Edward's-Tapp type bifurcation graft. The right ureter was extensively adherent to the lateral wall of the aneurysm, and the presence of the ureteral catheter greatly enhanced the dissection necessary to separate the structures. It was necessary to sacrifice both internal iliac arteries due to tubular aneurysmal dilatation of these vessels. Postoperatively the patient has done well and has complete control of urinary continence. The ureteral catheter was left in place for five days postoperatively and was then removed. Examination of urine obtained from the ureteral catheter of the fourth postoperative day revealed a normal sediment.

Comment

The above cases clearly illustrate the ureteral involvement thay may occur with arteriosclerotic aortic aneurysm. The involvement may be slow and inexorable, with slowly progressive hydronephrosis and uremia, as demonstrated by the first case, or the obstruction may occur over a short period with acute infection. Treatment of both types is basically the same, correction of the aneurysmal defect with consequent relief of ureteral obstruction. This could not be done in the first patient because of the advanced state of renal damage when he was first seen, and "conservative" management (i.e., drainage by proximal ureterostomy) was not sufficient to save renal function and hence life.

Figure 2. Intravenous pyelograms taken on December 20, 1957. At left, 5-minute film; center, 15-minute film; right, 30-minute film.

With the intimate relationship of the ureter and iliac arteries it is perhaps surprising that aneurysms do not more often cause ureteral obstruction. The literature supports the view that this relationship is uncommon. If one considers, however, that the ureter is fixed at its two ends but is only loosely bound down in its course between its origin and termination, then one can realize how the ureter may be gently pushed aside by an enlarging tumor. When, however, the ureter becomes fixed in position, further enlargement can result in extraneous pressure, obliteration of the lumen, and hydronephrosis.

The initial diagnosis will usually depend on the acuity of the general practitioner, the internist, and the urologist. Since this is a potentially curable condition, it is important for all physicians to be aware of this entity and to add it to their differential diagnosis in renal and abdominal disease.

H. J. Kornfield, M.D.
Department of Surgery
University of Kansas Medical Center
Kansas City 12, Kansas

M. E. Jacobson, M.D.
Veterans Administration Hospital
Wichita, Kansas

References

1. Braasch, W. F., and Emmett, J. L.: Clinical Urography, W. B. Saunders Co., 1951.
2. Dodson, A. I.: Urological Surgery. Third Edition, C. V. Mosby Co., 1956.
3. Hinman, F., Jr., in Campbell, Meredith, F.: Urology, W. B. Saunders Co., 1954.
4. Lowsly, O. S., and Kirwin, T. J.: Clinical Urology, Third Edition, Vol. II, Williams and Wilkins, 1956.
5. Pallette, E. C.: Multiple arteriosclerotic aneurysms of the abdominal aorta and common iliac arteries, A.M.A. Arch. Surg. 72:492 (March) 1956.
6. Shumacker, H. B., Jr., and Barrett, R.: Obstructive uropathy from abdominal aortic aneurysm, SG&O 100:758 (June) 1955.

Psychiatric Hospitalization

Indications and Contraindications

PAUL E. FELDMAN, M.D., *Topeka, Moderator*

Dr. Feldman:

A large number of reports from visitors from England and the Scandinavian countries over the past five years have drawn the attention of psychiatrists and psychiatric hospital superintendents to a general difference between mental hospitals in those countries and our own. There is a trend abroad, which has assumed the proportions of a movement, toward an open-door policy and toward the creation of a therapeutic community. The concept of the therapeutic community differs in different hospitals. In some it suggests that the hospital itself should be a therapeutic community; in others, it implies the establishment of a therapeutic atmosphere in a larger community of which the hospital is only one part.

One of the results of these accounts is that they have stimulated a great many of us to re-examine our experience in the hospital treatment of the mentally ill and to consider with renewed professional skepticism just what it is that we are trying to do, both for the public and for our patients.

Such study and reflection soon provide ample evidence and conviction that removal of the patient from his home and surroundings to a hospital bed—while it may often relieve the community of immediate pressures, and while it may bring various useful treatment routines to bear upon the patient's illness—is by no means an unmixed blessing. For one thing, it may cause the community to postpone indefinitely the development of other more effective treatment facilities and, for another, it may add additional complexities to the patient's own treatment problem.

Published here are papers presented as a symposium at a meeting of the Shawnee County Medical Society in Topeka, January 6, 1958.

The end point of any psychiatric treatment program is resocialization of the patient and his reintegration with family, with friends, and with industry. Such resocialization comprehends the idea that a released patient's economic and cultural needs will be met, that he will be useful so far as he is physically able, and that his sense of personal worth and dignity will be sustained. Wherever hospitalization tends to impede his progress toward these goals or, indeed, to move

the patient farther from them, it should be recognized as harmful.

We, then, are concerned with this question: Under what circumstances do the advantages of hospitalization of the mentally ill outweigh its disadvantages? The panel which has been assembled here represents a variety of institutions, agencies, and types of medical practice whose goals and methods must be consistent and coordinated if we are to accomplish our public and professional charge.

First, I would like to call upon Dr. Simpson, clinical director of the Topeka State Hospital. I would like to ask him to comment upon the adverse effects of hospitalization of the mentally ill.

Adverse Effects of Hospitalization

WILLIAM S. SIMPSON, M.D., *Topeka*

In the moderator's foreword he says, "The end point of any psychiatric treatment program is re-socialization of the patient and his re-integration with family, with friends, and with industry." Here we shall consider how prolonged hospitalization may adversely affect the patient in his progress toward these goals.

By the time a psychiatric patient is admitted to a hospital, he has often alienated himself from his relatives and the community by his symptoms and behavior. Rarely does he come into the hospital early in his illness; the relatives and the community generally wait until he becomes an emergency patient. Because of the hostility which a patient often provokes in those near to him, hospitalization is often conceived of by relatives or society, not so much as a way in which help may be obtained for the patient, but rather as a way in which he may be ejected from society—"put away"—with the accompanying feeling of "I have had enough of him, you take care of him." This feeling on the part of relatives is in marked contrast with that which usually accompanies the physically ill patient to a general hospital.

With the usual physical illness, a patient's place in society is held open more or less indefinitely. With the mentally ill, however, the ranks of society tend to close rather rapidly with hospitalization. Reasons for this are the lack of expectation of improvement or cure because of society's previous experience with psychiatric hospitalization, and the fact that psychiatric hospitalization usually requires more time to be effective than general hospitalization. (The "average" five- to ten-day stay in a general hospital would compare with the "average" stay of three to six months in a public psychiatric hospital.) In addition, another factor as mentioned above is the hostile atmosphere created by his behavior and symptoms prior to hospitalization. Thus a patient may enter the hospital at a disadvantage. Those close to the patient have often found him such a burden that secretly they hope that he does not return, and, furthermore, they do not expect that much can be done to help him, anyway.

Naturally, once the patient enters the hospital, we on the staff wish to make the hospitalization as effective as possible in rehabilitating him. However, we immediately run into a problem. We want the patient to like our hospital, but we do not want him to like it *too* much. We do not want him to develop "hospitalitis" and become too dependent on the hospital.

Psychiatric hospital personnel constantly have to struggle against the tendency of long-term hospitalization to degrade, desocialize, and deacculturize patients. It is a human tendency to conserve energy, to do things the simplest way, to routinize, and to plan for the mass instead of the individual. There is a constant temptation to create policies which make the hospital run more smoothly and quietly, but which deaden the patient's initiative, crush him, and take responsibility away from him. There is the temptation to reduce the running of a ward to its lowest and simplest level and to have the ward run in accordance with the mental status of its most disordered patient.

In such a milieu a patient may first resent and fight the restrictiveness, but after a time he may give up and become indifferent. This acceptance, though convenient from the standpoint of running the hospital, sometimes is inimical to the patient's progress towards his eventual return to effective community life. The very qualities that are needed so badly to survive in our society—a sense of responsibility, initiative, acquisitiveness. a sense of anger at social wrong—are all stifled by the very hospital which is supposed to help the patient return to society. If hospitalization is too prolonged, an almost irreversible state of dependency is fostered which makes eventual movement outward almost impossible.

Beyond this desocialization lies deacculturization. By this is meant such a loss of contact with not only the community but also the culture in which the patient lives, that in order for him to survive, he must stay in the hospital.

Thus, hospitalization may adversely affect the process of recovery. The hospitalized patient may face a triple problem, not only of recovering from his illness, and of returning to a society which has rejected him, but also of overcoming the adverse effects of hospitalization noted above.

Dr. Feldman:

Thank you, Dr. Simpson. Next I would like to call upon Mrs. Zurbucken as administrative director of Family Service and Guidance Center of Topeka. I would like her to comment specifically upon (1)

What she feels to be some of the community resources, the presence or absence of which contribute to the success or failure of maintaining a mentally ill patient in the community during his treatment, and (2) Whether or not these resources are the same or different from those which contribute to the success or failure of resocializing a patient once he has been hospitalized.

Community Resources

MRS. KATHLEEN ZURBUCKEN, *Topeka*

As a social worker, as well as representative of Family Service of Topeka, I should like to clarify the function of social work in helping emotionally disturbed patients—prior to treatment, while they are being treated, or after a period of hospitalization.

Social workers are interested in environmental situations and the reality stresses which are placed on people. It is part of the responsibility of the social worker to help alleviate known pressures and to help the patient understand, adjust, and accept the problems which must remain because of our cultural standards.

It seems to me that there are four specific areas which affect a mentally ill patient in the community both during and after any type of prescribed treatment. These areas are: (1) his home; (2) his employment; (3) his recreation, and (4) interpersonal relationship with those around him.

Let's consider each of these areas individually.

His Home: While an individual is having treatment, or just moving back into the community from either a long or a short period of hospitalization, it is his home to which he looks for support while he is making an adjustment back into his more normal activities. Many times a physician is helping this patient with his problems, but a social agency should be working with the family and the physician to help the family understand and accept the patient's limitations. The goal should be family understanding, even though this might mean some environmental changes. Often substitute homes are needed. This places much more pressure upon the patient as well as upon the substitute family members. The social agency should be constantly working with these substitute homes.

Topeka, as a community, does not have many homes where only one or two persons may live. Homes caring for small numbers of patients should be developed since there seems to me to be a real danger in setting up small institutions all over the community to care for people who either have no family or whose families are not able to accept them back into their own homes.

There is one type of service badly needed in the Topeka area to help in re-socializing the aged person. This is a day care center for the aged—where an older person could spend eight hours a day, where focus could be placed upon stimulating his interest, and where he could be encouraged to have "some life of his own." This would give adult children of older people some relief and would make the older person more capable of fitting into the adult child's home.

His Employment: Unfortunately many employers in our society believe that an individual who has had to be hospitalized or has had psychiatric treatment because of some emotional disturbance will never again be capable of fulfilling a job requirement. This leaves the individual in treatment feeling that he is no longer able to earn a living and takes away one of our most important sociological functions. Since Topeka, and the vicinity around the community, is primarily rural, we have a rather poor labor market. The community has never sponsored a shelter workshop to help retrain persons, but it would be most helpful if this type of thing could be established, and it would eventually pay its own expenses in terms of people becoming economically independent.

Another lack in our services is that the vocational rehabilitation agency is able to assist only the physically handicapped and not the emotionally handicapped. Until this service can include the emotionally handicapped, there are many people with potential capacities who cannot be retrained.

His Recreation: Persons who have been ill must learn to enjoy themselves. The community offers a good outlet for the older person in four Senior Citizens Clubs sponsored by the City Recreation Department. A great help would be the establishment of a social club for patients since individuals who have had treatment seem to receive support from those who have had like experiences.

Family Service would like to sponsor something of this sort, but again it would take proper financing, and the community to date has not seemed to deem it necessary.

Interpersonal Relationships: Interpersonal relationships are most important in helping the individual who has been upset to recreate an adequate and satisfying group experience. In order to meet these needs the social worker helps develop interest in civic and church groups, and Family Service also allows a place where a frightened person can come and sit and read a magazine. This may seem a simple type of outlet, but it is most important for those persons who need to find some place where they are acceptable enough where they can sit and enjoy themselves.

We have been focusing in this discussion on a former hospital patient, but all persons in the community need most of the resources we have discussed. The

person who has been emotionally upset needs just a little more help and understanding to be able to use these resources.

I would like to add that we all need to remember that persons coming out of the hospital have a right for more than survival, that they should have the right to rehabilitation, and the community has a responsibility to provide this.

These resources should be readily available, and there needs to be close co-ordination between physicians and community agencies.

Family Service is available to attempt to mobilize resources in the community for any patient.

Dr. Feldman:

Thank you, Mrs. Zurbucken. Next, I would like to call upon Dr. Grimshaw and ask him, as a psychiatrist in the private practice of psychiatry, to answer these questions. At what point does it became necessary for you to consider hospitalization of patients seen in private practice? Which of your problems can be dealt with in a general hospital? And, finally, do you feel there is need for additional facilities for such patients in general hospitals?

Local Hospitals and Private Practice

JOHN A. GRIMSHAW, M.D., *Topeka*

The simplest way to approach this question is to think in terms of most of the usual indications for hospital admission in psychiatric practice and then to consider what type of hospitalization and what requirements the hospital must meet to best accommodate these indications.

There are certain indications for hospitalization which I would call absolute. By this I mean that there can be no compromise. The patient is unquestionably in need of attention under a special setting, and outpatient therapy is contraindicated.

Danger to oneself or others usually requires seclusion and/or close 24-hour watch of the patient plus strict medical attention. The drugs and physical measures which are necessary to control such a patient must often be used in quantities necessitating very close supervision. The local hospital could accept such patients only on a strictly emergency basis and for a very short period of time. Definitive treatment in the general hospital is out of the question if the situation requires more than a few days of therapy. In planning general hospitals for the future, there should be facilities such as seclusion rooms where a patient could be maintained with minimal risk to himself and minimal disturbance to others for short periods. There are many conditions that would respond promptly, and this would reduce the necessity of state hospitalization.

Severely disturbed, maniacal, noisy patients also constitute a medical emergency. These patients need close attention to sedation, nutrition, fluid balance, and isolation from other patients who would be disturbed by them. It is felt that the amount of time consumed by the nursing staff and by physicians, and the type of isolation that would be necessary, would render treatment of such patients in a local hospital impractical. These patients need the specialized setting that can be found only in a mental hospital such as our state hospital.

Other than these two absolute indications, we have other less pressing needs. The first of these might be situations in which special treatment is necessary that is not possible on an out-patient basis. This might require occupational activities or activities of a social nature, recreational therapy, work programs, or special medical treatments such as insulin, lobotomy, repeated electro-shock treatments, etc., or it might merely be necessary to control acting out, as with asocial behavior problems.

At times the hospital is necessary in order to remove the patient from an unhealthful environment or to control serious and incapacitating anxiety. At present hospitalization in a general hospital for reasons such as these is impractical because none of the requirements can be met. There are no special materials or personnel to give any kind of a therapeutically orientated regime and program of daily activities to treat the patient. Special teams of personnel are necessary here. Nurses and aides dealing with these patients need special training, none of which are available at present.

There is no reason to assume, however, that the local hospital could not in the future provide such services by having a psychiatric department with its own beds and which could supply on a modest scale the special technicians, aides, and nurses which would be necessary for the institution of a therapeutic milieu. The attending psychiatrists on the service would have as one of their important functions the continued training and instruction of such personnel, and activities for the patient could be prescribed in much the same manner as is now done in private or state mental hospitals.

At times hospitalization is necessary because it supplies methods of study not available on an out-patient basis. For example, patients might be in a period of observation and "work-up" which would require numerous consultations, laboratory and other facilities, and the trained observations of aides and nurses over long periods of time. All of these could adequately be made available in the local hospital but are not available now. In planning a psychiatric department for the local hospital, we would be expected to have consulting psychologists, social workers, and

other specialists available to its staff who would be adequate to study the patient to the point where definitive recommendations could be made even in difficult cases. It is of course questionable whether certain rarely used or elaborate pieces of laboratory equipment should be supplied by the local hospital, but these could easily be supplied on a consultant basis or on a referral basis through the state hospital system or private mental hospitals.

There are many indications for hospitalization in private practice which at present can be taken care of only in private mental hospitals or in the state hospitals. The majority of such patients must go to the state mental hospitals because of the financial burden private hospitalization imposes. I see no reason, however, why facilities on a moderate scale could not be supplied by the local hospital in the future, which would provide an adequate therapeutic milieu to take care of a large majority of these patients who now are adding to the burden of our crowded state hospitals.

Dr. Feldman:

Thank you, Dr. Grimshaw. Dr. Forman, would you please comment upon what distinguishes the type of service offered by the Shawnee Guidance Center from other out-patient clinic systems in Topeka?

The Shawnee Guidance Center

R. B. FORMAN, M.D., *Topeka*

The Shawnee Guidance Center's somewhat different relationship to the community (different from the other clinics and hospitals represented here) stems from the fact that our clinic is run and financed for and by members of Shawnee County. For this reason the clinic orients its services to the county and to other agencies within the county. Together we work with these agencies for the mental hygiene of our community.

This orientation was prescribed when the community established this clinic. We provide psychiatric services to residents of the county who cannot afford private care and psychiatric services to other county agencies. This requires a large consultation service. We spend a good deal of time working with the Juvenile Court, the Police Court, the schools, holding conferences with principals, teachers, and members of the special education department, providing services to the social work agencies in town (when they need the special medical skills which a psychiatric clinic can provide), attempting to use our specialized knowledge in various community planning ventures. Recently a representative of our clinic sat with a study group which considered the problem of juvenile delinquency. We find ourselves meeting frequently with representatives of the health department and the county welfare agency in attempts to make reasonable plans for the problem families that every community has.

Obviously we do not work alone. We appeal to these agencies to assist us in providing help for members of the community who consult us. The Juvenile Court judge is often an extremely useful member of our treatment team, especially in handling the knotty problems that juvenile delinquents present to us. The county welfare agency works with us in finding suitable homes for children and aged people, where it is clearly indicated that they be moved out of their present noxious environment and do not need hospitalization.

Because of our interest in the preventive aspects of psychiatry, we participate in as many community teaching ventures as we can. More important, we attempt to expand our diagnostic and treatment services to children; for here, by providing a corrective experience for a young child, or helping a young family straighten out some emotional difficulty, we feel we can apply preventive psychiatric services most directly.

In the past year we have tripled our services to children, and we endeavor continually to cut down the period of time an anxious parent or disturbed child must wait before he can be seen.

Because of our eligibility requirements—residence in Shawnee County and an income which will not allow private treatment—we find that we are the major psychiatric resource for the large military community in Topeka. Last year we spent over 1/7 of our total time on problems presented to us by members of the armed forces and their families who live in the county.

Formal psychotherapy is provided to a large number of adults as well, with the aim of maintaining the productivity and usefulness of our neighbors.

We represent, in a very real way, the community's effort to help itself maintain a high level of mental good health.

Dr. Feldman:

Thank you, Dr. Forman. Dr. Thompson, would you comment upon the general question concerning the special advantages, if any, and limitations, if any, in treatment which can be provided by the Menninger Foundation Out-Patient Clinic as distinguished from the other out-patient clinics in Topeka?

Menninger Foundation Out-Patient Clinic

PRESCOTT W. THOMPSON, M.D., *Topeka*

I should like to speak first about the question of stigma, or of doors being closed to a man because of previous psychiatric hospitalization. There *is* stigma, or an emotional reaction of some sort, on the part of

some of our community, but I am inclined to focus on another aspect of the problem. As a psychiatrist, I don't recall a single case conference in which the question of how much stigma might result from the patient's hospitalization entered importantly into our deliberations. Perhaps this is because we look upon other considerations as being much more important.

We psychiatrists are concerned with how a patient is stigmatizing or spoiling things for himself in the eyes of the community. He may not be aware of it, and pointing this up or otherwise helping him to control such behavior may be one of our major jobs in his out-patient treatment.

When a patient leaves the hospital, he will usually be able to find work if he wants it, if he is ready for it, and if he is able to control his behavior. On the other hand, if he is still ill, whether the illness expresses itself through arrogance or suspiciousness, through provocativeness or hallucinations, or through excessive drinking, he may create wariness or outright rejection in others. If the patient is the vocal immature type, he may then blame his failure on the prejudices of society. Of course society has its prejudices, but I think we must be careful not to let this bit of social pathology interfere with our assessment of the patient and the treatment he needs.

I am reminded of a rather extreme example of a family which was concerned about stigma, and at the same time peculiarly blind to evidences of illness in the daughter. For months the girl clamored louder and louder that she needed help. She had fainted in the bathroom, impulsively walked out of social situations where she was the hostess, had wandered about in a daze and couldn't recall where she had been, had become lost on a familiar road, and so on. Finally, she fired off a revolver, indoors. Still no one heard what she was saying.

Then she murdered her husband.

Since then she has been hospitalized for treatment of her illness, and she has served a prison sentence. Obviously, she was stigmatized and scarred far more than if she had been admitted earlier to the hospital. (Interestingly enough, however, she now holds a responsible job.)

What would have happened if her parents had brought her to a psychiatrist six months before the murder? In the first place, this would have meant that she had parents who were alert to her distress and were concerned about it. This in itself would have been a good start. We would have listened carefully to the parents, done psychological tests, arranged for an electroencephalogram, and neurological consultation, and so on, and one of us would have spent several hours with the patient.

At first, the girl's facade—which was a sweet friendly one—might have led us to believe that she was not too disturbed. There may have been no particular indications at that time of murderous tendencies. But I think we would have been impressed with the insidious development of her illness, her flat affect, her tendency to act impulsively, and the various evidences of stress and strain in her thinking, perception, behavior, and physiology. At that point, we might have had several choices other than hospitalization, but the question of stigma would not have entered into our recommendation. We would have been concerned primarily with what direction her illness could be expected to take, how much support or control she needed, how much stress she could handle, and so on. We are inclined to hospitalize early rather than late, looking upon retreat as strategic when there is serious risk that continuing the battle may be catastrophic, as it was with this girl.

Speaking on a slightly different point, as requested by the chairman, we are aware in our (Menninger) clinic of the reluctance of some patients to see a psychiatrist, and how much effort it sometimes takes by the physician or friends to bring about the consultation or examination. I think that this reluctance has less to do with what the neighbors might say, and more to do with the patient's usually ungrounded fear of how he might feel about himself if he takes a good look. We arrange our schedules so that we can see such a patient promptly because delay often weakens his resolve to do something about his problem.

We are then prepared to go on from there with the patient and family, or to refer them back to the doctor with an opinion and recommendations, or on to another clinic or hospital. We thus offer a flexible service designed to provide as much or as little help as is indicated. Since many of the patients whom we see are necessarily referred elsewhere, we are grateful that we are part of a psychiatric community as rich in resources as is Topeka, and that important progress has been made and still is being made elsewhere in Kansas. When we refer a patient to a state hospital, or to any other psychiatric in-patient facility, it is comforting to be able to say with conviction that the patient is being referred to a *hospital.* And when we refer with conviction, the patient usually goes.

Dr. Feldman:

Thank you, Dr. Thompson. Dr. Stage, as a representative of a veterans' hospital, would you please comment upon what distinguishes the type of service of the Veterans Administration?

VA Psychiatric Facilities

THOMAS B. STAGE, M.D., *Topeka*

Veterans Administration medical facilities were established for the care of veterans with service-con-

nected illnesses. These are veterans who developed illnesses as a result of their service in the armed forces. In Topeka we can care for veterans who have service-connected emotional illness either on an out-patient or in-patient basis. Out-patients are treated at the VA Mental Hygiene Clinic and in-patients at Winter Veterans Administration Hospital. Both open and closed ward, male and female psychiatric services, as well as medical, surgical, and neurological services, are available at Winter Hospital.

Whenever possible, veterans are treated on an out-patient basis. They can continue with their jobs and their families and the difficult period of post-hospital adjustment is avoided. Since only veterans with service-connected illness can be treated at the Veterans Administration Mental Hygiene Clinic, the patient load of that clinic is primarily one of long-term treatment cases.

If beds are available over and above those needed for treatment of service-connected illnesses, other veterans may be admitted to Veterans Administration hospitals. During the past few years there has been a steady influx of closed ward patients with service-connected illness to Winter Hospital. We have not had closed ward beds available for other veterans. However, in other sections of the hospital, where there is a faster turnover of patients, beds are frequently available for all veterans. Veterans with service-connected illness are given priority, and waiting lists are established if beds are not immediately available for other veterans.

Any veteran can be examined at our admissions office. If we determine that he needs psychiatric treatment, and he is not eligible for treatment through the Veterans Administration, our admissions social worker will help the veteran and his family find a treatment source. Referrals may be made to the family physician, private psychiatrist, social agency, or to a private or state psychiatric hospital.

If a more complete psychiatric evaluation is required, and the veteran's condition is such that he can tolerate an open psychiatric ward, he can be admitted to the Diagnostic and Appraisal Section. The waiting period for this section is usually four to six weeks for those whose illness is not service-connected. The veteran is informed that the psychiatric evaluation will usually take two weeks. During this two weeks he will be interviewed on several occasions by a psychiatrist. Psychological tests will be administered if the psychiatrist thinks that they will be helpful. Family members will be interviewed by the psychiatric social worker if they can come to the hospital. Consultations are held with the medical, neurological, and surgical staff if necessary. Special examinations such as electroencephalograms and pneumoencephalograms can be done if the clinical picture is a complicated one.

At the end of the evaluation the patient and physician discuss further treatment. Most of these patients leave the hospital at the end of the evaluation period. If they are in need of treatment, they may be referred to their family physician or to public or private psychiatric out-patient facilities. Some patients are unable to leave the hospital at the end of their evaluation period and are treated on the open psychiatric section of the hospital.

Winter Hospital also has an alcoholic rehabilitation program. This is strictly a voluntary program, and each veteran must agree to spend 90 days on the closed alcoholic rehabilitation ward. Group therapy, milieu therapy, antabuse, and tranquilizers may be used in the treatment of the individual patient. Since alcoholism is so prevalent, there is a great demand for this program and the waiting list is consequently long.

Our philosophy is to treat psychiatric patients on an out-patient basis if at all possible. Hospitalization is kept as short as possible so as to avoid disruption of family life and employment. Veterans with illness that is not service connected, who are evaluated on our diagnostic and appraisal service or treated in the alcoholic unit, must be returned to their home communities for follow-up and treatment. It is necessary for the community to offer facilities for the treatment of these citizens.

Dr. Feldman:

Thank you, Dr. Stage. Dr. Williams, as a representative of an out-patient service of a state hospital, would you please comment upon any advantages or disadvantages which you feel obtain from having the patient live at home during therapy?

Advantages and Disadvantages of Hospitalization

HOWARD V. WILLIAMS, M.D., *Topeka*

In the introduction to our discussion for the evening, we could begin to appreciate the trend away from the isolation and confinement of the psychiatric patient toward the bringing of the patient into the community. New institutions and new techniques and new medications are adding more and more steps to serve the patient's attempts not to withdraw from active participation in the outside world. The large psychiatric hospitals can more and more cooperate with a number of outlying institutions such as the day hospital, the night hospital, the day nursery, the community recreational center, the church, the schools, as well as the out-patient clinics to accomplish the goals outlined to us.

Even though I make something of a contrast between the out-patient clinic and the hospital, it is, nevertheless, within the framework that each could be selected for very specific purposes at different times in the treatment of the same patient, or either could be selected for the treatment of the same symptom in two different patients.

In contrast to the out-patient clinic, the hospital provides for the patient a great number of material things. Food, clothing, and shelter are obvious examples that are given to the patient whether the patient makes an effort to earn them, to pay for them from previous earnings, or have them paid for by the family, the community, or the state. In contrast to the out-patient clinic, the hospital provides sufficient safeguards and sufficient trained technicians to allow the use of treatment modalities like insulin coma treatments or massive dosages of the ataractics. In contrast to the out-patient clinic, the hospital provides personnel trained to supervise and observe the patient around the clock.

In contrast to the out-patient clinic, the psychiatric hospital has more control of the attitudes of people the patient meets, and can, in many instances, actually make a medical prescription of the attitude that the patient should meet throughout the whole day. For advantages such as these, the out-patient cannot really hope to substitute, but not all patients need to be cared for so completely and even react unfavorably to being completely dependent upon the hospital for all needs, since the hospital cannot be so all-giving without, at the same time, putting some restrictions on the patient. In some instances, at least, this complete care means close confinement and loss of rights and of independence as most of us possess.

Therefore, in the examinations that we do in the Topeka State Hospital Out-Patient Clinic, we make an attempt to balance the advantages and disadvantages of hospitalization versus out-patient treatment. We try to find the correct niche for the patient to carry out the treatment program, and in doing so, try to consider seven aspects of the patient's functioning in his everyday life.

For selection for out-patient treatment, the staff wants to know, first, if he is aware of being ill, and, second, if he is sufficiently eager for treatment to cooperate with his program. If these favorable conditions seem likely, we try to see what special supervision the patient will need, or how much the patient will have to be under observation. If the patient meets this third requirement sufficiently well, he might also pass the fourth consideration, which is that he does not constitute a danger to himself or other people.

After these major considerations, we search for ways that the patient may continue activities in his usual environment on a reduced basis in order to plan his visits to the clinic itself. This is often possible if the patient meets the sixth condition, which is that his behavior remains within normal limits, or what queerness there is remains concealed by his own isolation, discretion, or at times the nature of the environmental situation.

Lastly, if the patient can take some distance from himself and examine with the psychiatrist his own thoughts and feelings, we generally conclude we should attempt treatment on an out-patient basis.

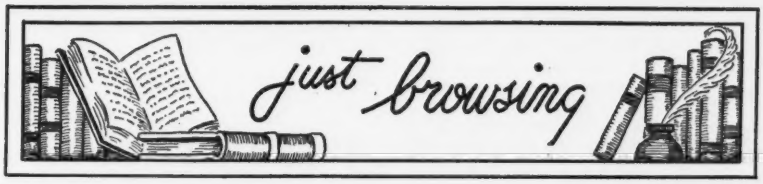
Special conditions in the environment of the patient might still lead to hospitalization, but these are the main characteristics we do hope the patient can bring to his treatment.

Dr. Feldman:

Thank you, Dr. Williams. I believe that our speakers tonight have clearly demonstrated that our community needs additional resources if we are to move toward the kind of community-centered program of treatment which will be most effective for our patients.

When we try to serve the world (or to understand it) we touch what is divine. We get our dignity, our courage, our joy in work because of the greatness of the far-off and always in sight, always attainable, never at any moment attained. Service is one of the ways by which a tiny insect like one of us can get a purchase on the whole universe. If we find the job where we can be of use, we are hitched to the star of the world and move with it.

—*Richard Cabot*



"The pioneer physiologist of the United States and the first to make a contribution of enduring value, his work remains a model of patient, persevering research." So does Sir William Osler describe Dr. William Beaumont. Many details are well known of the injury of Alexis St. Martin by a close-range shotgun blast; his treatment by Dr. Beaumont through a long convalescence; unexpected recovery; and the development of a gastric fistula, which made possible a series of epochal experiments in gastric physiology.

After two years of treatment combined with astute observations, "Beaumont sent a complete report of Alexis' case to Surgeon-General Lovell for his approval and correction, with the suggestion that it be published in some reputable medical journal, and in response to this communication received the following reply from the surgeon-general. . . .

" 'I have received your letter enclosing your valuable communication of the case of wounded stomach. The cure is a full demonstration of the wonderful powers of nature and highly creditable to yourself. Agreeably to your suggestion, I shall send it to the *Medical Recorder* for publication, altering it only so far as may be necessary to introduce a part of your letter relative to the present state of your patient.

" 'I will endeavor to send you some book of experiments on the gastric liquor, which will be somewhat of a guide to you in making your observations, which may be done with perfect ease and safety. It is stated, for example, that if several articles of food be taken into the stomach, that it would digest all of *one kind* first, then all of a second, and so on, and that this is the cause of the bad effects of a variety of food at the same meal. Suppose a man eat beef, potatoes, fish, cabbage, and pudding, it is expected that he will first digest all the beef, the others in the meantime remaining untouched; then all the pudding, then all the potatoes, and lastly the cabbage. Now, it is thought if he eat a dozen articles, by the time the stomach has disposed of eight or ten, it will become exhausted, and the rest will be left to ferment and produce indigestion and its consequent evils. Could you make experiments to ascertain this, and also the digestibility of various articles? . . .'

"The article did appear in the *Medical Recorder* early in 1825, but through an oversight on the part of someone was published as 'A Case of Wounded Stomach, by Joseph Lovell, Surgeon-General, U. S. A.' It is not stated how the error occurred, but toward the end of the same year . . . correction was inserted. . . .

" 'A mistake was made in stating that the case of wounded stomach produced by the penetration of a ball was communicated by Dr. Lovell. . . . It should have been mentioned as reported by Dr. William Beaumont, and also that it occurred at the post of Mackinac. . . .' "

Shortly after that Alexis took "French leave" and was gone for several years, after which he again returned to Beaumont and was again the subject of additional experiments. The value of the investigation and the accuracy of the observations are monumental, and not in the least dimmed by the passage of more than a century.

Dr. Beaumont died in St. Louis in 1853, at the age of 67. St. Martin lived in poverty until 1880 when he died at the age of 83 in St. Thomas de Joliette, near Montreal.—*O.R.C.*

(Life and Letters of Dr. William Beaumont by Jesse S. Myer, A.B., M.D.)

PRESIDENT'S PAGE

DEAR DOCTOR:

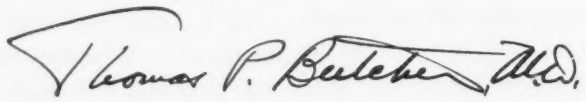
I once heard a layman telling of a harrowing experience as a boy. A sister had been ill for two days. The mother herself became ill during the second night. She was feverish, weak, and irrational. The other children huddled about, whimpering. And then, my friend added, "The door opened and in walked God—and it was the doctor."

So accustomed is the physician to the moments of anguish, fear, tragedy, and drama in the lives of others—moments that for them are unique and of great importance—that it is understandable that he may at times appear less responsive that he might wish.

But this is the core of the patient-physician relationship which is at the heart of the private practice of medicine in the American way. The wise physician senses this, and though he may rarely bother to put it into words, his life is lived in terms of it.

I submit to you that when every American citizen comes to feel that he can get a doctor whenever he needs one, be it day or night, and then is made to feel that he will not be forced to pay a doctor bill that he (the patient) believes to be unreasonable or not due, the socialization of medicine will be a lost cause—and the practice of medicine will be most rewarding to the physician.

Sincerely,



President

EDITORIAL COMMENT

As the Year Ends

Editor's Note. The following comments by Dr. Barrett A. Nelson, Manhattan, were presented to the House of Delegates of the Kansas Medical Society as Dr. Nelson completed his term of office as president of the Society.

A year can be so aggravatingly short, especially if it is inaugurated with bursting enthusiasm. Your president is hopeful that his humble efforts have resulted in some measure of accomplishment for his Society.

But he does feel brimful of pride for the splendid accomplishments of the committees which have uniformly performed such magnificent tasks. Perusal of the published committee reports shows the tangible results of these diligent activities.

The Society can take satisfaction from the final solution achieved with unexpected smoothness and effectiveness in the implementation of the Healing Arts Act, the proceedings of the Healing Arts Board, and the splendid cooperation of the representatives of the osteopathic profession and the chiropractic members of the board.

We are gratified that a logical plan for providing medical care to the indigent population is promised in preliminary negotiations with the Board of Social Welfare.

The Centennial Committee has embarked on a most ambitious program for the momentous year ahead which will bring Kansas medicine before public attention with a series of events spread over the months of January to May. Under the able leadership of energetic, enterprising president-elect Thomas Butcher, it will be a year to remember.

As a fitting climax to our present year we are indebted to our Wyandotte County members and their hard working committees for an annual meeting with one of the best scientific programs in many a session.

Your president has enjoyed an exhilarating, stimulating experience in the office which he was honored to serve. The cordial, delightful relationships of that experience have been most pleasant and gratifying.

The Year Ahead

Editor's Note. The work of the Society for the year ahead was summarized in the following form by Dr. Thomas P. Butcher, Emporia, as he took office as president.

Much of the work of the coming year has been in progress in able committees. The following remarks will remind you of some of these projects and suggest others.

1. The Centennial Year of the Kansas Medical Society offers this state an opportunity for national recognition in the contributions we are making and can make to the problems of the nation's health. The Centennial Committee has plans well advanced and will need the support of all doctors as well as many lay persons. The "celebration" will extend from January 1, 1959, to include the state meeting at Topeka in May.

2. The Committee on Hospitals has been confronted with problems arising especially in the smaller hospitals (under 25 beds) wherein certain levels of standards in equipment, personnel, and performance have been inadequate. Under such conditions, the patient suffers, and the institution and persons serving therein are exposed to legal action. A "Joint Commission" acting in advisory capacity to help set up and foster minimum standards for such hospitals (which are too small for accreditation by the national agency) could go far toward protecting all parties from present defects.

3. The Committee on Public Relations is working on a year-around program (fitted to the centennial, but continuing beyond it) for telling the story of medicine to the public via television, radio, news releases, etc. Speakers' bureaus in various regions of the state might also prove useful.

4. Along the same line, attention should be given to a better integration of local medical societies with their communities. It is highly desirable that Kansas become known as a state wherein medical care is available to all persons at all times regardless of their ability to pay, or the hour of day or night. This is already established in some communities. It is further suggested that each physician may well consider the proposition that "No man owes me money for medical care who honestly, in his heart, feels that he doesn't." I know of one check for $200 that was returned for just such a reason. It need not be an announced policy, but if a doctor follows it in fact, I submit to you that he is dollars to the good in the long run, and a lot happier.

5. The National Rural Health Conference will be held in Wichita in March, 1959, in connection with our centennial celebration. This promises to be a highlight of the year.

6. *Kansas legislation.* This is a legislative year, and with the Medical Practice Act having settled most of the disputes that have engaged the medical society for so many years, it is anticipated that a constructive program will be undertaken, having to do with such items as:

a. Revision (and humanizing) of the Commitment Act (Mental Health Committee).

b. Highway safety with reference to age limits, the unfit driver, etc., and other traumatic hazards, including farm machinery.
c. The problems of workmen's compensation for occupational diseases as well as accidents.
d. Sanitation, especially with reference to water pollution (Safety Committee).

7. *National legislation.* You are urged, if you agree, to contact Senators Frank Carlson and Andrew F. Schoeppel, and your own Congressional District representative *against* the Forand bill and *favoring* the Jenkins-Keogh bill. Space will not permit a review of these measures here, which are familiar to most of you. The Forand bill represents a major step toward the socialization of medicine; the Jenkins-Keogh bill provides a means for the self-employed to set aside money for retirement.

8. *Problems related to indigent care throughout the state.* Can they continue to be handled on a local basis? Should the state society enter into a formal program for such care?

9. *Rehabilitation.* The restoration, so far as possible, of all persons who are disabled may become the most significant development in the medical field in the next generation. The technology of modern therapy has added years to life; it is imperative that we now add life to years.

10. It has been suggested that a state committee be established that would, on request of a local society, meet with that society for consideration of any matters the society deemed pertinent. Does this have merit?

11. *The Auxiliary.* It is anticipated that the members of the Auxiliary will have an increasing role in the work of the Kansas Medical Society, much of which falls naturally within their province.

This is a limited list of items for consideration. Each committee will have an agenda, some of greater length than the foregoing. Each of you is asked to help make the turn of our century a year that is constructive in the principles and ideals of the American way of life.

Narcotics Registry

Prior to June 30 of each year every narcotics registry number must be renewed. This shall be done by writing the Director of Internal Revenue for Kansas, 412 South Main Street, Wichita. The renewal fee is $1.00 for physicians, dentists, and veterinarians and $3.00 for drug stores.

This becomes more important this year than previously because of the new Uniform Narcotics Act that it now on the statutes of this state. The new law more closely defines the use of narcotics than was true previously. It also adds some products that had not been included in the list. According to the law, the definition of narcotic drugs now means "coca leaves, opium, cannabis, isonipecaine, amidone, isoamidone, ketobemidone and every other substance neither chemically nor physically distinguishable from them; any other drugs to which the federal narcotic laws may now apply, and any drug found by the state board of pharmacy and the state board of health, after reasonable notice and opportunity for hearing, to have an addiction-forming or addiction-sustaining liability similar to morphine or cocaine, from the effective date of determination of such finding by said state board of pharmacy and state board of health."

Prescriptions for such drugs must be written and signed with the registry number of the person prescribing. This is of considerable significance because failure to comply with this section may lead to serious penalties both by way of fines and imprisonment.

Exempted from the Narcotics Act is "administering, dispensing, or selling at retail any medicinal preparation that contains in one fluid ounce, or if a solid or semisolid preparation, in one avoirdupois ounce, not more than one grain of codeine or of any of its salts, or not more than one-sixth grain of dihydrocodeinone or any of its salts.

"The exemption authorized by this section shall be subject to the following conditions: (1) That the medicinal preparation administered, dispensed, or sold, shall contain, in addition to the narcotic drug in it, some drug or drugs conferring upon it medicinal qualities other than those possessed by the narcotic drug alone; and (2) that such preparation shall be administered, dispensed, and sold in good faith as a medicine and not for the purpose of evading the provisions of this act.

"Nothing in this section shall be construed to limit the quantity of codeine or of any of its salts that may be prescribed, administered, dispensed, or sold to any person or for the use of any person or animal, when it is prescribed, administered, dispensed, or sold in compliance with the general provisions of this act."

The law requires that records be kept and warns against fraud, abuses, deceit. One interesting statement in the new law is as follows: "Information communicated to a physician in an effort unlawfully to procure a narcotic drug, or unlawfully to procure the administration of any such drug, shall not be deemed a privileged communication."

New this year also is a special requirement about the registry renewal. There will now be required an exact address giving the location of the place of business or of practice for the person to whom the registry number is assigned. In a city an office address within a building or an accurate street address will be sufficient. A new problem has arisen in small towns,

however, where streets are not numbered. Some means must be given of effectively describing the location. A street intersection is not sufficient. It could be identified by block and lot number. If the address is in a rural area, an exact distance from some well established point must be given.

A considerable penalty may accrue to the physician who fails to notify the office of his change of address within 30 days after such a change is made. Technically, such a person is working with an invalid registry number. Newly licensed physicians also should be cautioned not to administer narcotics until a registry number has been obtained. There is some delay in accomplishing this. The office of Internal Revenue advises that the registry number may be applied for at the time of applying for a practice license. The registry number will be withheld until a license is obtained.

It is especially important this year, therefore, that each physician who expects to use narcotics renew his registry number by sending $1.00 and the correct information about his address to the proper office in Wichita.

Regulations on Radiation Sources

Regulations providing for the registration of users of radiation sources adopted by the Kansas State Board of Health on January 17, 1958, require that "every person using, operating, or storing any radiation machine, or storing, manufacturing, using, or handling any radioactive material shall register with the State Board of Health within 30 days following receipt of such machines or materials, or commencement of such use, operation, storage, manufacture, or handling."

The regulations have as their purpose the determination of the extent of the problem of possible radiation health hazards and the establishment of a program of voluntary control of radiation health hazards based on adequate education of the users of radiation and the general public.

Precise knowledge of the tolerance of the human body tissues to ionizing radiation is not yet available. There is, however, considerable evidence that somatic tissues and germ cells are altered or damaged in proportion to the total dose of radiation which they receive at one exposure or to the accumulated dosage from exposure at intervals over a period of time. These injuries shorten life and adversely affect the reproductive system. They cause sterility and harmful genetic changes. They appear to cause leukemia and malignancies at local points of concentration.

It is believed that the natural "background" radiation to which we are more or less constantly exposed in itself exerts a considerable influence on plant and animal life on this earth. In addition to these natural sources, the man-made sources of ionizing radiation to which the average citizen may be exposed purposely or by accident have greatly increased in number since 1945. Increased use of radiation in the medical arts, industry, and research has vastly increased the importance of radiation as an occupational health hazard. There is no accurate method of estimating the number, location, or nature of these sources. It is necessary to know about these potential sources of radiation hazard since man cannot be relied on to act as the indicator of exposure because the presence of radiation is insensible and immediate clinical effects are either absent or too vague to recognize.

The general public has an inordinate fear of radiation hazards, so great that reaction to the use of radiation has already seriously interfered with the constructive use of radiation in the improvement of the public health, welfare, and material productivity. We must dispel this fear and revive the confidence of the public by demonstrating in a definite manner that responsible persons and groups are actively engaged in a program to protect them against unnecessary radiation.

The State Board of Health hopes to provide information concerning the safe use of radiation to all registered users of radiation through the cooperation and assistance of organized groups such as medical and dental societies, engineer groups, teaching and research groups, industrial groups, and other groups having a considerable number of individuals with an extensive knowledge of radiation and the health hazards attending the uses of radiation.

The State Board of Health has, since October, 1956, been guided in the promulgation of these regulations by an Advisory Committee on Radiological Health composed of six well-qualified and competent representatives of the medical and dental professions, industry, agriculture, and research and teaching. The board hopes to retain the services of this group indefinitely as technical advisors and to actively consult with organized professional and technical groups in order to carry out a practical program to avoid radiation injury without interfering with the desirable uses of radiation. The efficiency with which the board demonstrates its ability to cope with the radiation health hazard problem will determine whether or not a voluntary program will be successful or whether legislation which severely restricts the use of radiation, to assure safety in its use, is necessary.

Nothing in the regulations implies limitation of the kind and amount of radiation that may be intentionally applied to a person for diagnostic or therapeutic purpose by, or under the direction of, a licensed physician or dentist.

Programs of State Institutions

Care and treatment services for the mentally subnormal population of Kansas are centered at two state residential institutions located at Winfield and Parsons. Winfield State Hospital and Training Center provides services for mentally deficient patients under 6 and over 21 years of age, and for the multiple handicapped of all ages, while the State Hospital and Training Center at Parsons has a treatment and training program designed for rehabilitation of the educable and upper level trainable retarded between 6 and 21 years of age. Winfield has provided services for the mentally retarded throughout its history. The function of the institution at Parsons was changed from that of a hospital for epileptics to its present status in 1953. Admission to either of the institutions is voluntary upon application by the parents or guardian without the formality of court commitment.

Factors involved in admitting patients to the institutions are legal residence, age, mental level, and physical condition. It must be determined that the applicant is incapable of receiving instruction in the public school system. At Parsons the administrative policy decision has been made that an applicant should possess an I.Q. of 40 or above, he must be ambulatory, toilet trained, and able to feed himself and follow instructions if he is to benefit from the program. However, all applicants within the age restriction, regardless of mental level or physical impairments, are admitted to Parsons for a 90-day evaluation study prior to transfer to Winfield. This procedure creates a problem in that the latter institution is over-crowded and cannot accept transfers on schedule. As a result, many extremely handicapped children remain at Parsons for as long as two or three years, even though they cannot be enrolled in the active program, and others are added to the growing number on the waiting list.

Other than deficiency, the mental condition of an applicant for either institution is not considered in the criteria for admission except that Kansas law provides that "no person shall be admitted who is suffering from severe mental disorder."[1]

Parsons has, however, integrated the psychiatric concept into its entire program and extends the clinical phase to include treatment of the neuroses and behavior problems common to the population there. Because Winfield houses the multiple handicapped and/or the severely mentally deficient, its program is geared primarily to medical care and physical rehabilitation of bed patients and training in the basic social functions for non-hospitalized patients. Academic and vocational training devices are incorporated for those patients capable of participation.

Winfield serves a total patient population of 1,420 and its medical department is staffed by three resident physicians and usually four externs. The superintendent is a medical doctor. Consultants in neurology, ophthalmology, nose, ear, and throat, and orthopedics are available for the diagnosis and treatment of individual cases. Out-patient services and long-term medical care and physiotherapy are provided in a new treatment and rehabilitation center opened in October of 1956.

The professional staff at Parsons consists of a medical superintendent who is a psychiatrist, two staff psychiatrists, and a pediatrician. Two medical externs augment the permanent staff. Average daily population is 550 at present, including more than 100 adults remaining from the epileptic treatment program. Consultants in the fields of neurology and child psychiatry from the Menninger Foundation, and in music therapy, speech pathology, and special education from the University of Kansas, are affiliated with the institution.

Four new residential units are to be opened at Parsons in the near future, and patient population is expected to increase by approximately 130. Some of this number will be transferred from Winfield in exchange for multi-handicapped children now housed at Parsons, but the majority will be from the waiting list of 240 applicants.

Clearly defined program objectives were worked out under difficult circumstances during the transition at Parsons when the program for retarded children was inaugurated. Concurrent with arranging concrete operating mechanics for the institution, new philosophical concepts for the care of institutionalized children were being developed and psychiatry's contribution to the treatment of mentally retarded children was being expounded for the first time. Goals were more firmly established when the multi-discipline approach to treatment was developed within a framework of the psychiatric concept of total treatment. The major disciplines of psychiatry, social serv-

1. G.S. 1955 Supp. 76-1410

at Winfield and Parsons

ice, and psychology form the nucleus of the present program with the adjuncts of occupational therapy, music therapy, academic training, recreation, vocational training, and religious education comprising the active portions of the program. Personnel in the Nursing Services Section provide the sustained care associated with a custodial institution and at the same time make an important contribution to the rehabilitative "team" approach through their intimate contact with the patient population. This dynamic approach to care and treatment of the retarded is intended to meet all the needs of the child rather than force the child to adapt to a particular program.

In November of 1957 the National Institute of Mental Health granted $165,025 for a three-year study into the language and communication problems of children at the Parsons institution. The fund was appropriated to the University of Kansas to be administered under the auspices of the Bureau of Child Research. Dr. Richard Schiefelbusch, director of the bureau, with the writer, co-direct the project. Dr. D. B. Foster, Dr. Cotter Hirschberg, and Dr. John Segerson from the Menninger Foundation, Dr. Margaret Byrne and Dr. M. Erik Wright from the University of Kansas, and Dr. Richard Bartman, Dr. John Fair, and Mr. Lloyd Lockwood from the Parsons hospital make up an advisory committee to aid in the project.

The exploratory phase of the study is now under way and constructs relative to language and communication are being formulated. Evaluation procedures will be designed and the testing phase of the project will form the basis for selecting the experimental and control groups of children for further study. Speech deficits among children in the chronological age group of 6 to 16 with mental ages from 3 to 12 will be studied, and subsequently a program of language and communication training will be initiated. Total test information will include neurological and psychometric data in addition to determination of intelligence levels. Conditions of cerebral injury, emotional trauma, and autistic tendencies will be clinically measured for influence on verbal behavior.

Grants-in-aid for research into the problems of mentally deficient children, and the unremitting effort to maintain high program standards at the two Kansas institutions serving the deficient, have little value unless viewed in terms of ultimately returning the patient to his home or community.

In summarizing existing conditions and future prospects for retarded children and their parents, mention must be made of the great lack of community facilities for preventive pre-institution and after-care services in Kansas.

The fundamental principle guiding those who are interested in the welfare of children is that a child should not be separated from his family unless absolutely necessary and, if circumstances demand separation, he should be returned to the family as soon as possible. In many instances it is not necessary to hospitalize the mentally deficient child, but if diagnosis shows that such a step is desirable, and that the institutional program has something of benefit to offer the child, the family and community must be ready to accept him when he is able to return. In this area of parent-child relationship, the guidance center proves invaluable in contributing to the necessary adjustment; the social welfare agency aids the family to establish a proper environment for the retarded child; and society as a whole works toward acceptance of the retarded child and his integration into community life.

Diagnostic clinics, social welfare services, parent and child guidance, special education classes in public schools, foster care homes for the retarded without families, sheltered workshops for the severely retarded—all should be established in the community to work with the institution in a comprehensive program of pre-institution and after-care services. The institution should be considered as an interim in the life of a retarded child, an extension of community resources, available when needed, but not the end result. Custodial care for mildly or moderately retarded children is out of the question, from both a financial and a moral standpoint. It is the obligation of public institution management to lessen the burden on the taxpayer when possible and, more important, to accept the moral responsibility of preparing the retarded for their particular place in life, ready to enjoy that life to the fullest extent possible, however limited. An institutional program should be designed for that purpose only and its merit judged from that aspect alone.

H. V. Bair, M.D.

One of a series of articles prepared by the Committee on Mental Health of the Kansas Medical Society.

Retrolental Fibroplasia

Assisting a premature infant through the perils and vicissitudes of early extrauterine life, with a physiologically competent child as a result, is one of the pleasures of a physician who cares for the "newly arrived." Conversely, one of the biggest disappointments is to find that the premature infant on whom one has lavished a great deal of professional care is to spend the remainder of his life with sightless eyes. Such an outcome is met more commonly with this group of infants than it should be. That this physical catastrophe is of concern to the medical profession is demonstrated by the numerous articles and reports of investigative studies that appear in the literature. First and foremost among the disease entities that produce blindness in this group of infants is retrolental fibroplasia (RLF).

Review of the literature at this time would certainly suggest that there are a number of factors that have a part to play in the morbidity of this disease. Prematurity itself is a notable influence. The smaller the infant, by weight, the greater the rate of incidence. In general, the infant who weighs less than 1500 grams at birth experiences one chance out of three of developing some stage of retrolental fibroplasia. If this infant in this weight range is one of multiple birth, the hazard may approach the ratio of two out of three chances. The handicap is usually more severe in this instance too, for the regression of the proliferative stage does not occur with frequency and the cicatricial stage then supervenes. Closely related to the weight of the infant at birth, and yet a distinct factor in itself, is the gestational age. The longer the intrauterine existence, the less the opportunity for the disease to develop even though the weight of the fetus may not be materially increased. This fact suggests that the physiologic maturation of the retinal vessels is protective. The gestational age of 34 weeks or more affords the infant an opportunity to have normal eyes. Quite patently, if premature labor is prevented, the problem of RLF is solved.

However, among the external factors that apply after the infant is delivered, there is a paramount one: *oxygen*. To a great extent this factor may be controlled by the attending physician. The infant must have a sufficient amount to meet his physiologic needs, but *no excess* amount. It is significant that the partially cyanotic infant whose problem is anoxia does not develop cicatricial RFL with great frequency. In this instance where there is impairment of the oxygen-carbon dioxide exchange, increasing the environmental level of oxygen is not synonymous with increasing the arterial blood oxygen saturation level. It is the hyperoxia state in the retinal vessels and not the increased oxygen level in the inspired air that stimulates proliferative vessel change.

In exercising care then in the use of oxygen one must keep in mind that the concentration level of the gas in the incubator is not at all a measurement of the arterial blood level of oxygen, and that therefore there is no "safe level" below which RLF will not ensue. Levels of 25 per cent may be as harmful as levels of 40 per cent to 50 per cent. Prolongation of any degree of hyperoxia is detrimental and is to be avoided. If the infant is capable of normal gaseous exchange, 12 hours may be too long. In situations where the infant's weight is less than 1000 grams, even the oxygen concentration of normal air breathed over a period of time may unfortunately be too great. One can not escape the conclusion that oxygen must be utilized cautiously, and then only to combat the immediate emergency of fatal deficit states in the shortest possible exposure time.

One of a series of articles prepared by the Committee on Child Welfare of the Kansas Medical Society.

Clinicopathological Conference

Indigestion, Gastrointestinal Hemorrhage, Coma, and Convulsions

Case Presentation

We are discussing today a 47-year-old white man who was admitted to KUMC for the first time on September 11, 1956, complaining of abdominal pain and swelling. He died on September 20, 1956.

Since 1940 he had had repeated episodes of upper abdominal pain which lasted for one or two minutes. Their frequency varied, and he occasionally experienced pain daily for three or four months; at other times, he was symptom-free for several months. The pain did not radiate and was relieved by food and antacids. Scleral icterus, dark urine, and light stools had been noted for about one year before admission, and melena was noted on two occasions. Six weeks before admission he had abdominal distention, swelling of the feet and legs, and a weight gain of approximately 20 pounds. His systolic blood pressure at that time was reported to be 215. During the five weeks before admission the edema and abdominal distention decreased, but the abdominal pains became more severe.

The patient's mother had died of cancer of the liver. The family history was otherwise non-contributory. The patient had been a store manager. He had drunk alcohol excessively for about 25 years, but his past history was otherwise not significant.

He was a well developed, well nourished, alert, white man without dyspnea, orthopnea, or edema. His blood pressure was 160/90; pulse rate, 116; temperature, 98 degrees. There was no cyanosis or icterus. Numerous spider nevi were noted on his chest and shoulders, and his palms were red. His oral hygiene was poor. The lungs were clear to percussion and auscultation, but the diaphragms were elevated bilaterally. The heart sounds and rhythm were normal, and no murmurs or friction rub were heard. The abdomen was protuberant, and there was a questionable fluid wave. The liver was palpable 6 cm. below the right costal margin; it was smooth and non-tender. The spleen was not palpable. There was no pedal edema. The testes appeared somewhat atrophic, and there was questionable gynecomastia. The rectal examination was negative. The neurological examination was negative, and his gait was normal.

The urine was acid with a specific gravity of 1.044, 2 plus sugar and few waxy casts, but no albumin. The red count was 4,950,000 with 14.3 gm. hemoglobin. The white count was 10,950 with 69 per cent polymorphonuclears (68 per cent filamented), 22 per cent lymphocytes, and 8 per cent monocytes. The VDRL test for syphilis was negative. The blood urea nitrogen was 19 mg. per cent; serum sodium, 129 mEq/L; potassium, 3.4 mEq; chloride, 94 mEq; carbon dioxide, 32.3 mEq; calcium, 3.8 mEq; phosphorus, 1.5 mEq. The gastric analysis showed a maximum free acid of 120 degrees. The glucose tolerance fasting specimen was 277 mg. per cent; first hour, 390 mg. per cent; second hour, 380 mg. per cent; third hour, 330 mg. per cent; fourth hour, 330 mg. per cent; and glucose was present with all of the urine specimens. The total serum bilirubin was 0.8 mg. per cent; direct bilirubin, 0.2 mg. per cent; serum albumin, 3.86 mg. per cent; serum globulin, 2.54 mg. per cent; total cholesterol, 94 mg. per cent with 49 per cent esters, bromsulphonthalein retention, 14 per cent; alkaline phosphatase, 1.5 millimol units; thymol turbidity, 4 units.

Upon admission the patient was placed on an ulcer regimen consisting of six feedings daily of a bland diet and milk or magnesium trisilicate with aluminum hydroxide (Gelusil) every hour and scopolamine methylbromide (Pamine) 5 mg. at bedtime. On September 15 he vomited coffee-ground material and passed about 500 ml. of blood by rectum. The hemoglobin at that time was 7.5 gm. He was given a transfusion of 500 ml. of whole blood, after which the hemoglobin was increased to 9 gm. On September 18 he had a tachycardia of 110, became restless, and complained of abdominal pain. His blood pressure was 115/65; the hemoglobin was 6.4 gm. He was again transfused with 500 ml. of whole blood. That evening he became agitated and confused, and he was given 60 mg. of phenobarbital, intramuscularly, but with no relief. At 7:45 p.m. he was given 30 mg. of codeine, intramuscularly, and at 10:55 p.m. he received 100 mg. of meperidine hydrochloride (Demerol). The next day he was unresponsive. The serum sodium was 138 mEq; potassium, 2.9 mEq; chloride, 90 mEq; carbon dioxide, 33 mEq; blood ammonia, 1,166 mcg. per cent; and blood sugar, 290 mg. per

Edited by Jesse D. Rising, M.D., and Mahlon Delp, M.D., from recordings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology, and pathology of the University of Kansas Medical Center, as well as by the third and fourth year classes of medical students.

cent. The hematocrit was 29 ml. with 9.3 gm. of hemoglobin.

He was given 50 units of regular insulin at 8:30 a.m., 11:00 a.m., 1:00 p.m., and 3:00 p.m., and the blood sugar decreased to 185 mg. per cent. He was given 23 gm. of monosodium glutamate in 5 per cent glucose, intravenously, and hydrocortisone and potassium chloride were also given by vein. He developed intermittent multifocal convulsions which were fairly well controlled with intravenous diphenylhydantoin sodium (Dilantin), paraldehyde, and magnesium sulfate. Blood was removed from the stomach with gastric washings, and he was given several enemas.

In spite of medications and treatment there was no apparent change in his condition, and he continued to have intermittent convulsions and coma. His temperature rose to 105 degrees, and he died suddenly at 7:00 a.m. on September 20, 1956.

Dr. Robert E. Bolinger (moderator): Are there any questions?

Richard Lockwood (fourth year medical student): Was his ulcer management followed closely before and after the x-ray examination?

Dr. Donald L. McCoy (resident in medicine): He was on the same medication until September 19.

Haywood Jackson (fourth year medical student): When did his first gastrointestinal bleeding occur?

Dr. McCoy: He first vomited blood on September 14.

Terrance Van Buskirk (fourth year medical student): Were there any changes in his skin color?

Dr. Robert Manning (resident in medicine): No significant changes were noted.

Mr. Jackson: How much monosodium glutamate did he receive?

Dr. McCoy: He received at least two of the 23 mg. units.

Gerald Kerby (fourth year medical student): Had he ever been hospitalized before?

Dr. McCoy: No.

Francis Ikezaki (fourth year medical student): Had he been seen by a physician before his admission?

Dr. Bolinger: At one time he had been treated for six weeks.

Mr. Ikezaki: Had he had any blood transfusions before entering this hospital?

Dr. Bolinger: No, he had not.

Morteza Jenab (fourth year medical student): What was the blood pH?

Dr. Bolinger: It was 7.78 on September 19 at the time he was having convulsions.

Theodore Hostetler (fourth year medical student): What was his weight?

Dr. McCoy: He weighed 175 pounds on admission, and there was no appreciable weight change during his hospitalization.

Mr. Hostetler: Was his blood pressure maintained throughout the hospital course?

Dr. McCoy: Yes, his blood pressure averaged 140/70.

Mr. Jackson: Were any other hepatograms done?

Dr. McCoy: The first one was done on admission and showed the total cholesterol to be 125 mg. per cent. A second one, on September 19, showed the total cholesterol to be 94 mg. per cent.

Mr. Kerby: Did he receive insulin before admission?

Dr. Bolinger: It was stated that he had not received insulin because there was no acetone in the urine.

Mr. Jackson: Was there any estimation of circulating eosinophils?

Dr. Bolinger: I do not believe so.

Mr. Ikezaki: Did he have flapping tremors or fetor hepaticus?

Dr. McCoy: There was fetor, but I do not know about the tremors.

Mr. Hostetler: Will you describe the chest examination during the last episode?

Dr. McCoy: Moist rales were present in his chest during his last hospital day.

Mr. Jenab: What was his urinary output?

Dr. McCoy: During the last three days the output was 3200 ml., 3000 ml., and 2300 ml.

Mr. Hostetler: Was the gastric tube in place when he received the monosodium glutamate?

Dr. McCoy: No.

Mr. Jackson: Was the patient icteric?

Dr. Manning: He was slightly icteric.

Mr. Jenab: Was he drinking excessively before the edema developed?

Dr. McCoy: Yes, he was drinking heavily at that time.

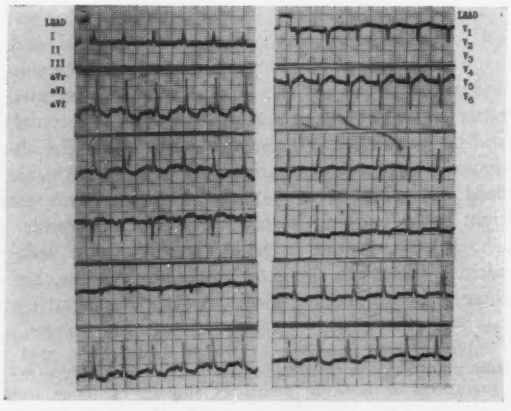


Figure 1. Electrocardiogram taken on September 12, 1956.

Mr. Jenab: Had he lost weight before the edema developed?

Dr. McCoy: There is no information about that.

Dr. Bolinger: Are there any other questions? Then may we have the electrocardiograms, please?

Mr. Ikezaki: The electrocardiogram taken on September 12, 1956 (Figure 1) shows tachycardia. There is S-T segment depression in leads II, III, aVF, V_3, V_4, V_5, and V_6. I interpret this tracing to be compatible with myocardial ischemia.

Dr. Bolinger: May we have the x-rays, please?

Mr. Hostetler: The first chest x-ray, PA and lateral (Figure 2), taken on September 12, 1956, shows no bony abnormalities. The diaphragm is elevated bilaterally, more on the left. The vascular markings are prominent.

There are no bony abnormalities in the kidney-ureter-bladder film which was taken on September 14, 1956. There is hepatomegaly to the iliac crest and probably splenomegaly.

The studies of the upper gastrointestinal tract show a normal stomach, but the duodenal border is distorted. There are areas of radiolucency in the study of the esophagus. I interpret this series as compatible with active duodenal ulcer and esophageal varices (Figure 3).

I see no abnormalities in the film of the barium enema; the pattern of the large intestine is normal, and I interpret this to be a normal barium enema.

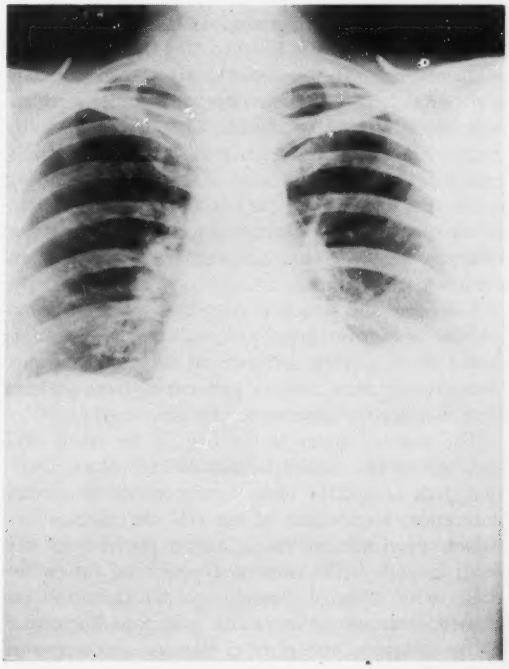


Figure 2. Chest x-ray on September 12, 1956.

Dr. Bolinger: Do you have any comment, Dr. Germann?

Dr. Donald R. Germann (radiologist): Concerning the barium enema study, we must decide whether or not the colon along the hepatic flexure is displaced downward. A large posterior lobe of the liver may show up on the plain film, but the hepatic flexure may be in the normal position. I believe that the hepatic flexure shown in this film is in the normal position, and that there is no enlargement of the liver.

The gastrointestinal study shows extensive mucosal hypertrophy of the stomach and grossly deformed structure of the bulb of the duodenum. We thought there was a crater, not at the superior portion of the bulb, but farther down.

I do not want to minimize the changes in the esophagus, but the patient had hyperacidity and mucosal hyperplasia, and some of these changes were possibly reflected in the esophagus. There is evidence of esophageal varices.

I do not believe that hepatic enlargement is shown on the kidney-ureter-bladder film. There are no masses or stones. The spleen probably occupies its usual position, and I do not believe that there is splenic enlargement.

Figure 3. Spot film showing duodenal bulb.

Dr. Bolinger: Three facts stand out in our case: the possibility of liver disease, the hemorrhages, and the terminal event. Mr. Jackson, will you please discuss the differential diagnosis.

Differential Diagnosis

Mr. Jackson: This 47-year-old white man was admitted for the first time to this hospital on September 11, 1956, complaining of abdominal pain and distention. Since 1940 he had had repeated paroxysms of upper abdominal pain which persisted for one or two minutes. The frequency varied: occasionally he had daily episodes for as long as four months; at other times he had been symptom-free for several months at a time. The pains did not radiate and were relieved with food or antacids. About one year before admission scleral icterus, dark urine, and light stools had been noted. He had had tarry stools on two occasions. About six weeks before admission he complained of abdominal distention, swelling of the feet and legs, and a weight gain of 20 pounds. His systolic blood pressure at that time was said to have been 215. During the five weeks before admission, the edema and abdominal distention decreased somewhat, but the abdominal pains became more severe. He had had a history of alcoholism for 25 years.

Spider nevi were noted on his chest and shoulders. The diaphragms were elevated, bilaterally. There was palmar erythema, ascites, hepatomegaly, atrophic testes, and questionable gynecomastia.

The urine had a specific gravity of 1.044 with two plus sugar. The serum electrolyte values, total cholesterol, and cholesterol esters were low, and there was increased carbon dioxide. Bromsulphonthalein retention was high. There was an abnormal glucose tolerance curve, increased prothrombin time, borderline thymol turbidity, gastric hyperacidity, and ketonuria.

He was placed on an ulcer regimen on September 11. On September 15 he vomited coffee-ground material and passed gross blood by rectum. The hemoglobin dropped from 14.3 gm. to 7.5 gm. He was given 500 ml. of whole blood. Two days before death he became restless, developed tachycardia, and complained of abdominal pain. His blood pressure was 115/65, the hemoglobin was 6.4 gm., and he was given another 500 ml. of whole blood. That evening he became confused and agitated. At 6:45 p.m. he was given 60 mg. of phenobarbital, but his agitation increased. One hour later he received 30 mg. of codeine, intramuscularly, and at 10:55 p.m. he received 100 mg. of meperidine. The next day he was unresponsive. Electrolyte values were essentially unchanged. The hemoglobin was 9.3 gm.; blood ammonia, 1,167 mcg.; and blood sugar, 290 mg. per cent. He received 200 units of regular insulin in six and one-half hours, and the blood sugar decreased to 188 mg. per cent. He was given 23 mg. of monosodium glutamate and hydrocortisone plus potassium chloride, intravenously. He developed multifocal seizures which were only partially controlled with diphenylhydantoin, paraldehyde, and magnesium sulphate. Blood was removed from the stomach by gastric washings. There was no change in his coma or convulsions, and his temperature rose to 105 degrees. He died suddenly on September 20, 1956.

I shall base my discussion on hepatomegaly. I will exclude such unlikely possibilities as venous congestion, obstructive biliary disease, liver abscess, pyogenic infections, syphilitic infections, brucellosis, schistosomiasis, hydatid cysts, lymphoma, leukemia, and metabolic diseases. Acute infectious hepatitis can be ruled out because there was no fever, the liver was not tender, and the serology was negative. There was no history of toxins, and there was no secondary focus or sign of amyloid disease.

Metastatic tumor is a possible diagnosis because of the nodular liver, hepatic pain, fever, malaise, anemia, increased serum alkaline phosphatase, and bromsulphonthalein retention. Primary tumor must be considered because of the rapidly growing abdominal mass, pain, distention, weight loss, fever, anorexia, jaundice, and hypoglycemia. Also compatible with this disease is the decreased white count, the increased platelets, serum alkaline phosphatase, and serum mucoproteins. I will also consider chronic hepatitis with repeated zonal necrosis.

Hemochromatosis is found in alcoholics, usually becoming symptomatic at 40 to 50 years of age. Skin pigmentation, diabetes, testicular atrophy, hepatomegaly, portal hypertension, ascites, and spider nevi are seen with varying incidence. The diabetes usually requires more insulin than other forms of this disease. Cardiac or hepatic death may result. The fasting serum iron is increased; the iron binding capacity may be decreased. An abnormal glucose tolerance curve is seen with glycosuria. The bromsulphonthalein excretion may be normal.

I believe our patient's symptoms fit the clinical picture of diffuse hepatic fibrosis. This disease is found in about three per cent of autopsies and predominates in men. Seventy per cent of these patients have a history of chronic alcoholism.

The primary injury to the liver is the result of a metabolic defect caused by unbalanced caloric nutrition, lack of specific dietary components, or dietary imbalance. In chronic alcoholism the dietary imbalance plays a major role. Changes in the liver vary from an increased central and periportal fat to cirrhosis with repeated injury to portal areas and increased derangement in hepatic function. There may be few abnormalities early in the disease because of the great reserve of the liver. In the later stages there

is hepatic insufficiency. Retention of bromsulphonthalein increases; albumin, cholesterol, and cholesterol esters decrease, and there is coma, jaundice, anemia, hemorrhage, ascites, ankle edema, hyperestrinism, spider nevi, pectoral alopecia, gynecomastia, palmar erythema, testicular atrophy, portal hypertension, varices, collateral circulation, splenohepatomegaly, and hypersplenism.

The x-rays confirm the active ulcer that our patient had. About 14 per cent of patients with diffuse hepatic failure developed peptic ulcerations at some time during the course of the disease. The etiology is unknown but may be due to alcoholism or increased levels of circulating corticoids. Our patient may have had multiple transfusions while being treated elsewhere, and this might have resulted in hemosiderosis accounting for a pancreatic, insulin-resistant diabetes.

He had a hypochloremic, hypokalemic, metabolic alkalosis as a result of increased levels of circulating corticoids, especially aldosterone. The large amount of monosodium glutamate he received may have aggravated his alkalosis. I believe that he died in hepatic coma precipitated by gastrointestinal hemorrhage and aggravated by the administration of barbiturates.

In summary, I believe this patient had diffuse hepatic fibrosis; active duodenal ulcer with hemorrhage; transfusion hemosiderosis; hyperchloremic, hypokalemic metabolic alkalosis, and secondary aldosteronism.

Dr. Bolinger: What is your diagnosis, Mr. Ikezaki?

Mr. Ikezaki: Laennec's cirrhosis with bleeding duodenal ulcer.

Dr. Bolinger: Mr. Kerby?

Mr. Kerby: In the absence of serum iron I cannot rule out the possibility of hemochromatosis and possibly hemorrhage from the esophageal varices.

Dr. Bolinger: On what do you base your diagnosis of hemochromatosis?

Mr. Kerby: This patient had hepatomegaly, testicular atrophy, spider nevi, and evidence of portal hypertension. There was a diabetic glucose tolerance curve, and his hyperglycemia was not sensitive to insulin. Pigmentation was not present, but this occurs in 20 to 30 per cent of patients with hemochromatosis.

Dr. Bolinger: What is your diagnosis, Mr. Hostetler?

Mr. Hostetler: Bleeding duodenal ulcer with Laennec's cirrhosis.

Dr. Bolinger: Our patient had a terminal convulsive episode which was not characterized by the classic picture of flapping tremor. What do you think caused this agonal convulsion?

Mr. Jenab: I believe the patient had metabolic alkalosis which caused his convulsion. Apparently, the administration of monosodium glutamate at that time superimposed on the possibility of secondary aldosteronism and the low potassium and chloride, resulted in the metabolic alkalosis which precipitated the convulsions.

Dr. Bolinger: The patient was apparently lucid until September 15 when he suddenly became confused. What factors could have contributed to this?

Dr. George L. Curran (internist): This man received codeine and Demerol, both of which are detoxified by the liver. Phenobarbital is largely excreted in the urine, but it has been shown experimentally that after the circulation of a dog liver has been impaired with resultant inadequate oxygenation, the administration of phenobarbital causes an increase in the serum transaminase as evidence of hepatic necrosis. In our patient we must consider the causes of the liver damage which did not allow for the adequate detoxification of the codeine and Demerol. We also know that this patient's ammonia level was high, and this probably contributed to his mental confusion. He was a chronic alcoholic and had liver damage. It has been found that alcoholics have low serum magnesium levels. If the same dosage of magnesium is given to normal individuals and to chronic alcoholics with liver damage, it is possible to produce a positive magnesium balance in the normal individuals, but it cannot be produced in the alcoholics. It is apparent then that this man had a deficient serum magnesium content, and it has been documented that this deficiency can cause central nervous system symptomatology ranging from gross tremor and confusion to coma and convulsion. Our patient had a hypokalemia, and it is known that in cases such as this there can be superimposed central nervous system symptoms.

Dr. Bolinger: Our patient was referred here for surgical correction of his ulcer. Dr. Klotz, what was the problem of surgery on this patient for the correction of his peptic ulcer, and what were the possible causes of his hemorrhage?

Dr. Arthur Klotz (internist): There were several reasons for refusing surgery on this man. There was the problem of duodenal ulcer in combination with abdominal pain, and I believe this could have represented pancreatitis. A duodenal ulcer can be produced with great uniformity, experimentally, by diverting the pancreatic secretions from the duodenum. Furthermore, there is elevation of the serum pancreatic enzymes in pancreatitis. Our patient was a chronic alcoholic, and for this reason he was entitled to have recurrent pancreatitis.

Dr. Bolinger: May we have the pathologist's report, please?

Pathological Report

Dr. James B. Caulfield (pathologist): A large ulcer crater was found in the duodenum. The ulceration

extended into the pancreas and involved several large arteries. At one point there was complete erosion with numerous areas of thrombosis. The gastrointestinal bleeding that precipitated the fall in blood pressure and the decrease in the hemoglobin could be directly attributed to the vascular erosion at the base of the ulcer. Digested blood was found only in the colon.

There was evidence of necrosis of the liver (Figures 4 and 5). There was accentuation of the lobular pattern as a result of periportal fibrosis which is considered to be a postnecrotic lesion. In addition, there was centralobular necrosis and extensive fatty metamorphosis which was recent and was probably the result of the prolonged hypotension. The central anoxia, secondary to the hypotension, may have been accentuated by the cirrhotic process because portal fibrosis compromises the arterial flow to the lobule. The terminal coma and death were probably the result of severe liver damage, as evidenced by the high blood ammonia levels and the intolerance to phenobarbital.

The liver, spleen, pancreas, thyroid, pituitary, mesenteric lymph nodes, stomach, and adrenals all showed evidence of excessive iron deposition within appropriate epithelial and reticuloendothelial cells. There was no evidence of fibrosis in relation to any of the intracellular iron. The only organ with any abnormal fibrosis, the liver, clearly showed the iron to be within the parenchymal and bile duct cells.

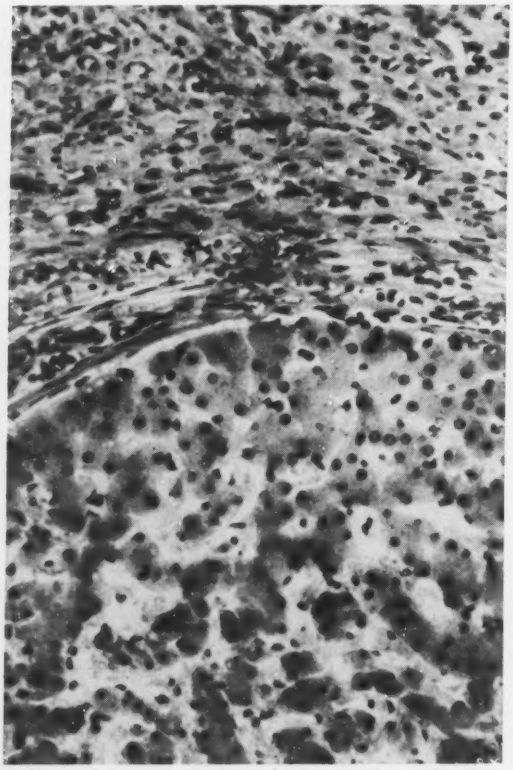


Figure 4. Photomicrograph of the liver showing dense fibrosis of the periportal region and preservation of the liver cells at the periphery of the lobule.

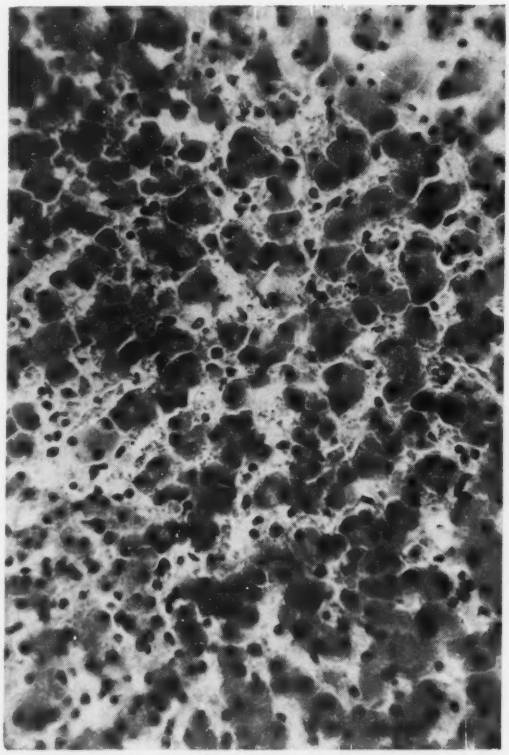


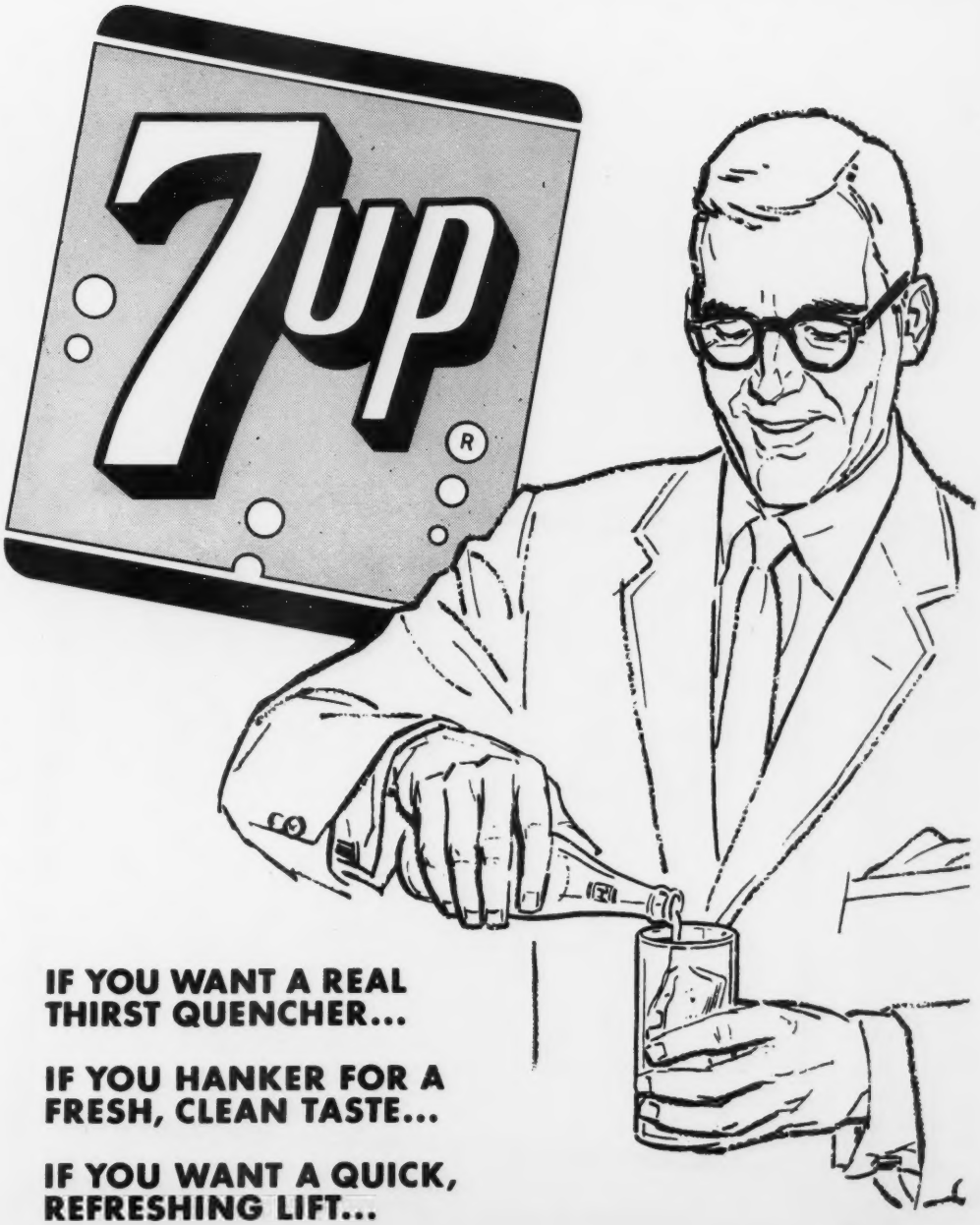
Figure 5. Photomicrograph of the necrotic central portion of a liver lobule showing deeply stained pyknotic nuclei and smudgy cytoplasm.

An interesting iron distribution was seen in the thyroid (Figure 6). The low cuboidal cells, commonly thought to be in a resting state, were quite free of iron; but the tall columnar cells, to which secretory and resorptive activity is ascribed, contain iron.

An iron determination of liver tissue revealed a total liver iron of 1.5 gm. or only about three times as much iron as is normally present within the liver.

The presence of iron in many organs that showed no fibrosis, the peculiar distribution of iron in the thyroid, and the small total quantity are most compatible with a recent deposition of iron rather than prolonged deposition.

The first transfusion was given six days before death. At no time did the serum bilirubin rise to abnormal levels; therefore, it would seem that hemolysis either due to a transfusion reaction or fragile erythrocytes being transfused, or normal fragmentation of these erythrocytes due to age, cannot be implicated in the iron deposition.



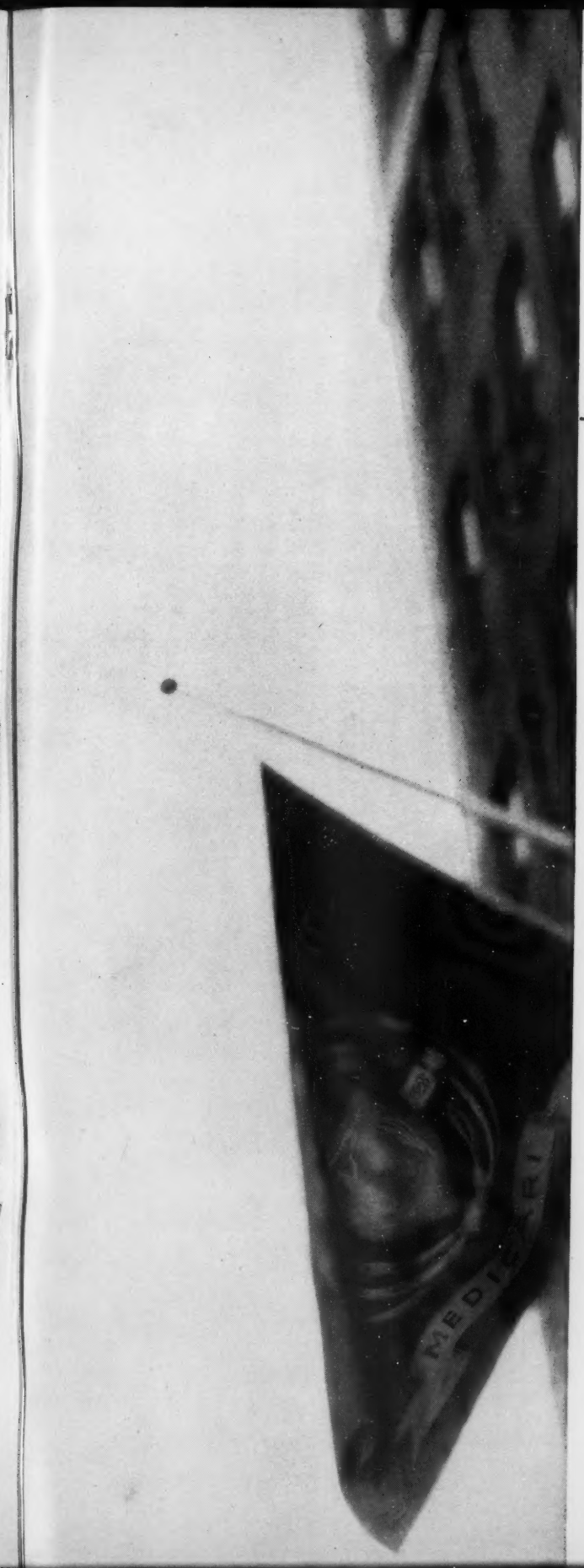
IF YOU WANT A REAL
THIRST QUENCHER...

IF YOU HANKER FOR A
FRESH, CLEAN TASTE...

IF YOU WANT A QUICK,
REFRESHING LIFT...

Nothing does it like Seven-Up!

DOCTORS
PARKING
ONLY
7AM - 7PM
QUIET



ACHROMYCIN® V

Tetracycline and Citric Acid Lederle

A Decision of Physicians

When it comes to prescribing broad-spectrum antibiotics, physicians today most frequently specify ACHROMYCIN V.

The reason for this decided preference is simple.

For more than four years now, you and your colleagues have had many opportunities to observe and confirm the clinical efficacy of ACHROMYCIN tetracycline and, more recently, ACHROMYCIN V tetracycline and citric acid.

In patient after patient, in diseases caused by many invading organisms, ACHROMYCIN achieves prompt control of the infection—and with few significant side effects.

The next time your diagnosis calls for rapid antibiotic action, rely on ACHROMYCIN V—the choice of physicians in every field and specialty.

Lederle

LEDERLE LABORATORIES
a Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

IN ALCOHOLISM

A "SECOND BEST" ARMY FAILS TOTALLY

And against the main army of alcoholics—those whose drinking is a symptom of underlying pathology—less than a complete campaign is futile.

To shorten time, frustration and expense (simple efficient management) requires initial institutional care of these individuals:

1. To stop their ingestion of alcohol;
2. To detoxify the system;
3. To restore the fluid electrolyte balance;
4. To detect and correct nutritional anomalies peculiar to the individual alcoholic;
5. To overcome or reduce bodily ailments that contribute to the abnormal state and, finally
6. **To develop a program that will aid the particular individual in abstaining from all alcoholic beverages until death.**

THE RALPH CLINIC

529 HIGHLAND AVENUE • KANSAS CITY 6, MISSOURI

Telephone VI. 2-3622

The Ralph Clinic (in its 61st year) is in the advance of every phase of the treatment of alcoholism. It invites consultation with you concerning your patients with problems of excessive drinking.

(A portfolio about the Problem of Alcoholism is available upon request).

The lungs were the site of a terminal bronchopneumonia.

I believe that this patient had a bleeding ulcer that led directly to the hypotension, liver necrosis, and death. The bleeding ulcer provided a source of iron, and the high gastric acidity enabled the iron to be maintained in a ferrous state which could be rapidly reabsorbed. The reabsorbed iron was deposited in active epithelial cells and reticuloendothelial cells, giving an appearance of hemosiderosis. The old postnecrotic scarring is probably of importance because it would act synergistically with any extrahepatic condition that leads to a decrease in the blood supply to the liver.

Dr. Bolinger: Did this patient have idiopathic hemochromatosis?

Dr. Caulfield: I do not believe that he had a true hemochromatosis. I believe he did have a deposition of iron in epithelial cells, this iron being acquired from the gastrointestinal bleeding.

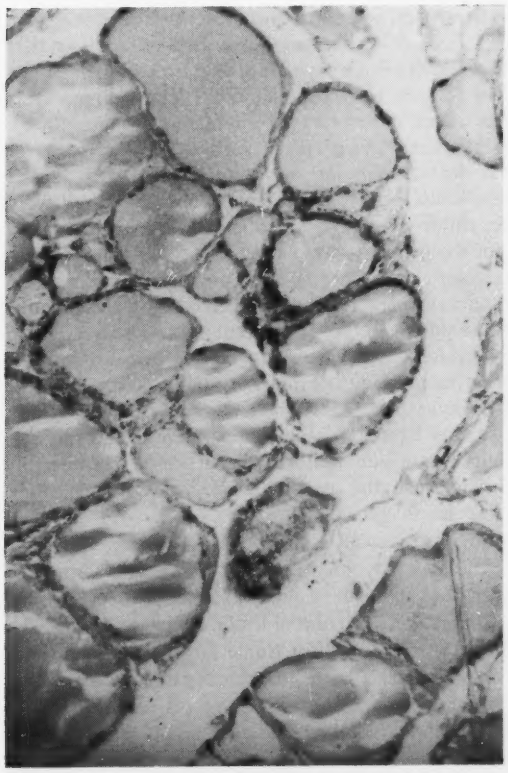


Figure 6. Photomicrograph of Perle stain of the thyroid demonstrating deposits of iron within tall epithelial cells and lack of iron in the flattened epithelial cells.

Dr. Bolinger: Do your findings suggest Laennec's cirrhosis?

Dr. Caulfield: No, they do not. They are most compatible with postnecrotic scarring.

Dr. Bolinger: What were the findings in the brain?

Dr. Caulfield: The findings in the brain were consistent with ammonia intoxication.

Dr. Bolinger: How do you explain the iron absorption?

Dr. Caulfield: This can best be explained on the basis of the high acid in the stomach which provided iron from the hemoglobin in a ferrous state so it could be rapidly absorbed in large quantities.

Dr. Bolinger: There are several significant features about this case. The patient walked into the hospital with a fairly well controlled ulcer. His ulcer management was interrupted by his x-ray studies. He developed bleeding and a typical picture of portal-caval encephalopathy. Finally, his central nervous system manifestations were probably aggravated by the loss of potassium and administration of substances which produced alkalosis.

Pathological Anatomical Diagnosis

Primary

Chronic, penetrating, peptic ulcer of the duodenum.

Postnecrotic cirrhosis of the liver; chronic passive congestion of the spleen.

Focal acute centralobular necrosis of the liver.

Hemosiderosis of the liver, spleen, pancreas, thyroid, pituitary, mesenteric lymph nodes, and stomach.

Erythroid and myeloid hyperplasia of sternal marrow.

Varicosities of the lower esophagus.

Gynecomastia.

References

1. Finch, S. C., and Finch, C. A.: Idiopathic hemochromatosis in iron storage disease, Medicine 34:381 (Dec.) 1955.

2. Kennedy, R. P.: The quantitative determination of iron in tissue, Journ. Biol. Chem. 74:385, 1927.

3. Reissman, K. R., et al.: Acute intestinal iron intoxication, Blood, 10:35 (Jan.) 1955.

4. Wyatt, J. P.: Patterns of pathological iron storage, A.M.A. Arch. Path. 61:42, 1956.

Kansan to *A.M.A. News*

Jim Reed, formerly of Topeka, began new duties as editor of the *A.M.A. News* in Chicago early this month. The 16-page newspaper, a new project of the American Medical Association, will be published every two weeks and will feature nonscientific news of special interest to the medical profession.

In Topeka Mr. Reed was executive editor of the *Topeka Daily Capital.*

Aspirin Poisoning in Children

A Review of the Literature

RACHEL A. DRIVER, M.D., ***Kansas City***

From ancient times naturally occurring salicylates found in the bark, leaves, and fruit of many plants and trees were given a variety of therapeutic uses, ranging from use in childbirth to the removal of corns.[1] Hippocrates, Celsus, and Galen employed the juice and bark of willow trees for medicinal purposes. It was not until 1763 that the use of willow bark for antipyresis was mentioned by the Rev. Edward Stone. Following this report, willow bark was frequently used both as an antipyretic and as an analgesic.

In an attempt to determine the chemical nature of the active ingredient in willow bark, White (1798) discovered the color reaction with iron salts which is still used in the determination of salicylates.[1] In 1874 synthetic salicylic acid became available, the sodium salt being used widely in the treatment of rheumatic fever. Acetylsalicylic acid was first prepared in 1853 but had no therapeutic application until introduced into medical practice in 1899 by Wohlgemut and by Dreser.[1,2] Initially it was used largely in treatment of rheumatic diseases, but its greater use has since become that of relief of pain.

Acetylsalicylic acid is probably the most widely used drug today. In 1951 we in the United States spent $135 million for aspirin and analgesics.[3] Over nine million pounds of aspirin alone are consumed yearly in the United States.[2] Because of its ready availability and widespread use, there is a tendency to disregard any potential toxic effects which aspirin might possess, and it is not surprising that toxic reactions are encountered. Most of these are fortunately mild and inconsequential, but death can result.

Children are particularly prone to intoxication from relatively small doses. Aspirin is widely used in pediatrics for antipyresis, analgesia, and the treatment of rheumatic fever, sometimes in high dosages and over prolonged periods of time. There is also the problem of the accidental ingestion of single large amounts.

Therefore, through this study, we shall attempt to come to a clearer understanding of the drug itself, the problem of toxicity, its clinical manifestations, pathologic physiology, and management with the hope that increased knowledge and awareness will lead to wiser use.

This is one of 11 theses, written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Driver is now serving her internship at the University of Kansas Medical Center, Kansas City.

The Problem

The true incidence of aspirin intoxication is not known. Gross and Greenberg,[1] after an exhaustive study in 1948, observed that reports of poisoning, especially non-fatal cases, were surprisingly uncommon in view of the wide consumption of the drug. However, some inferences can be drawn from available sources.

United States Census Bureau reports indicate that the average death rate from salicylates is about 0.350 per million total population per year and accounts for about 4 per cent of all fatal poisonings in all age groups.[4] Bain[3] made a study of deaths due to accidental poisoning in young children. She reports the death rate from accidental poisoning of all types in children 1 to 5 years of age in the United States for the period 1940 to 1950 as 3.6 per 100,000 population and 1.8 per 100,000 population in the group under 1 year. Thirty-three per cent of these deaths were due to drugs, 41 per cent of which were due to salicylates. These mortality reports give no accurate clue to morbidity. From hospital experience, where fatality is the exception rather than the rule in patients treated for aspirin poisoning, one can certainly conclude that the incidence is considerably higher than the average medical practitioner might suspect.

The causes of aspirin poisoning vary with age. Hoffman[5] states that in the 5 or 6 plus cases treated per year in Cook County Hospital, three types of patients are seen: the older or adult age group who attempt suicide with a single large dose, small children who eat a large quantity as candy, and children who are given an overdosage of aspirin medication.

Riley and Worley[6] studied a group of 42 patients with salicylate intoxication at the Vanderbilt University Hospital over the 10-year period 1945 to 1955. They found that 13 cases were due to accidental ingestion and 29 followed aspirin therapy for some concomitant disease (23 febrile illnesses).

TABLE I

CAUSES OF ASPIRIN POISONING, 1951-1956

	1951	*1952*	*1953*	*1954*	*1955*	*1956*	*Totals*
Total Cases	2	4	5	5	5	5	26
A. Accidental	1	4	5	5	4	2	21
B. Therapeutic	0	0	0	0	0	3	3
C. Suicidal	1	0	0	0	1	0	2

In the period 1951 to 1956, 26 patients with aspirin poisoning were admitted to the University of Kansas Medical Center. As revealed in Table I, this group showed a preponderance of intoxication from accidental ingestion of single large quantities of aspirin.

Twenty-four of the 26 cases studied were in children, the two adult cases resulting from attempted suicide. The age distribution shown in Table II is similar to that reported by Riley and Worley.[6] They found that most accidental cases occur in the 2- to 4-year age group. In their series, therapeutic intoxication was seen chiefly in infants under 1 year of age (16), while the group in Table II showed a more even spread.

TABLE II

AGE DISTRIBUTION OF ACCIDENTAL AND THERAPEUTIC ASPIRIN INTOXICATION, 1951-1956

	Below 6 mo.	*6 mo.-1 yr.*	*1-2 yrs.*	*2-3 yrs.*	*3-4 yrs.*	*4-5 yrs.*
Accidental	0	0	4	13	3	1
Therapeutic	1*	0	1	0	0	1

* The only fatality in the series.

It is felt that the danger of accidental intoxication has increased since the advent of candy aspirin. Candy medications were originally developed in 1912 by Dr. Bernard Fantus to increase the palatability of medicine for children. He himself felt that the danger of children consuming an excessive amount of medicine because of its sweet flavor was great enough that he advised prescribing no greater quantity than a child could tolerate should he take it in a single dose. As usage of candy medications increased, medical literature began to contain more and more reports of illness and death in children from drug overdosage. Some authors contended that children are likely to consume almost anything they find available, regardless of its flavor. Therefore, the Council on Pharmacy and Chemistry of the American Medical Association[9] reviewed the accident statistics, sales records, and population changes over a 20-year period, 1932 to 1952, in order to determine the influence of flavored aspirin on accidental poisoning in children.

Candy aspirin has been available as a prescription drug since 1932, but only since 1948 has it been distributed over-the-counter. It is sold chiefly through drug stores where it now constitutes approximately 12 per cent of all aspirin sales. In the pre-war period, when fairly small amounts of candy aspirin were available, approximately 20 per cent of all aspirin fatalities occurred in pre-school-age children. In 1951, 80 per cent of all aspirin deaths occurred in children under 5 years of age. However, during the same period, aspirin production nearly doubled, while the pre-school population increased 70 per cent.

An evaluation of the influence of candy medication on non-fatal aspirin poisoning is more difficult. Data from the Chicago Poisoning Center indicates that, of the first 500 cases reported to the center, 84 were due to aspirin. Flavored "baby" aspirin was directly cited in 73 of the 84 cases—14.5 per cent of the total cases received by the center and 87 per cent of the cases associated with aspirin ingestion.

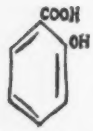
While this evidence is not conclusive, it is suggestive that flavored aspirin has contributed to an increase in accidental poisoning out of proportion to its availability. Surely the undisputed usefulness of flavored aspirin in pediatrics should not lead to indiscriminate and careless usage.

Pharmacology

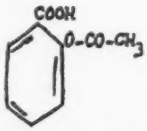
A review of certain basic pharmacologic principles is helpful in the understanding and proper management of aspirin intoxication.

The efficacy of salicylates seems to depend in part on the amount of salicylate anion liberated in the body. Salicylic acid per se is too irritating for systemic use so certain derivatives, among which are salicylate esters of organic acids, have been developed. Aspirin is an ester of acetic acid, where the carboxyl group of

salicylic acid is retained and substitution is made in the OH group.



Salicylic Acid



Acetylsalicylic Acid (Aspirin)

The therapeutic potency of aspirin is about 50 per cent greater than that of sodium salicylate, as is also its toxicity.[2]

Absorption of aspirin takes place rapidly following ingestion, traces of salicylate being detectable in the urine within 10 to 15 minutes after therapeutic doses. The main site of absorption appears to be the small intestine, although it does take place in a less complete and predictable manner in the large intestine and urinary bladder. Sodium bicarbonate is said to hasten absorption.[10] It has been suggested that this is due to the fact that the bicarbonate causes a quicker emptying of the gastric contents into the small intestine where the salicylate is more rapidly absorbed.[2]

Gross and Greenberg[1] concluded that a preponderance of the data and opinions in literature they reviewed indicated that aspirin was hydrolyzed to some extent in the gastrointestinal tract, chiefly in the small intestine. There is not complete agreement as to the extent of hydrolysis prior to absorption, some writers[5] stating that aspirin is not completely hydrolyzed in the intestine. Others[4, 6, 11] feel that the drug is hydrolyzed and then absorbed. It is certain that if any hydrolysis remains to be accomplished, it rapidly occurs following absorption, for after half an hour or so practically all that is in the blood is in the form of salicylate.[5]

Once absorbed, salicylates are rapidly distributed throughout all body tissues and the free salicyl radical undergoes certain metabolic transformations. Most of the salicylate is bound to plasma proteins, leaving only about 25 per cent free to diffuse into the interstitial fluid. Approximately 20 per cent of the absorbed salicylate is destroyed in the body.[12] Of the remaining 80 per cent, "probably a small portion is oxidized to such end products as gentisic acid, while a majority of the remaining portion is detoxified by conversion to more easily excretable forms such as salicylic acid, salicyluric acid, and salicylglycuronides."[6] These metabolic end products likely have little part in producing toxic manifestations but may give false positive tests for urinary sugar (Benedict's test) and ketones (ferric chloride test).

Approximately 70 per cent of salicylate is excreted in the urine, some in the free form but chiefly as salicylurate and in other chemical combinations. Some is lost in sweat while about 20 per cent is oxidized in tissues.[13] Renal excretion is prompt, beginning 10 to 15 minutes after ingestion, by both filtration and tubular excretion, the latter occurring only when the excreted urine is an alkaline or more so than blood.[12] Excretion is, relatively speaking, quite slow; approximately 50 per cent of a given dose is eliminated in 24 hours, but traces can be found in the urine for 48 hours or longer.[2]

Smith et al.,[11] suggest that after approximately four hours, excretion becomes as rapid as absorption so that in the following four hours the plasma levels do not fall appreciably. Therefore, fairly constant blood levels can be maintained by dosage spaced at four- to six-hour intervals. The percentage of excretion appears to be unrelated to dosage or the volume of urine.[2]

The duration of excretion is dependent on the amount of drug given and the rate at which the body can metabolize and eliminate the salicylate. There is no known renal threshold for the excretion of salicylate, but clearance is markedly affected by the pH of the urine. Renal clearance increases rapidly when the pH is above 7. An increase in pH from 6.0 to 7.7 causes approximately tenfold increase in excretion.[2] At a urinary pH of less than 7.0, the clearance is 10 to 15 cc. per minute. As the pH rises above 7.5, excretion increases sharply and may reach values above 100 cc. per minute.[4]

The administration of sodium bicarbonate raises urinary pH, thus increasing the renal clearance of free salicylate and lowering the plasma level. This rationale has prompted advocating its use in the treatment of intoxication,[10] but the particular acid-base disturbance present at the time should determine the wisdom of this course.

Excretion of salicylates in infants and children is less efficient than in adults due to more immature function of the kidneys and less effective oxidation and detoxification processes. At a dosage of 60 mg., the plasma level in an infant at the end of four hours is about 4 mg. per cent. If a similar dosage is given every four hours, the blood level at the end of 24 hours may be 20 to 24 mg. per cent.[5] At this rate, toxicity would develop in several days. This pyramiding effect in the less mature child must be kept in mind by those caring for children.

Therapeutic as well as toxic effects of aspirin are due to specific action on various organs and functions of the body. These have been extensively studied.

Aspirin has been found to reduce body temperature in febrile patients but rarely produces any such effect in normal individuals. This antipyretic action of salicylate is thought to be mediated through the central nervous system by way of the temperature-

regulating mechanism in the hypothalamus. Normal regulation of body heat requires a balance between heat production and heat loss. The hypothalamic nuclei play a role in regulating peripheral mechanisms concerned with production and loss of heat. In the febrile individual, the "thermostat" appears to be set at a higher level, the balance between heat production and loss remaining intact. Salicylates act to reset this regulating mechanism to normal temperature levels. Heat production is not affected but heat loss is increased by vasodilatation, increased peripheral blood flow, and sweating.[2]

The analgesic action of aspirin appears to be due to central depressant action, but the site is uncertain. The type of pain best relieved by salicylates is that of low intensity, such as headache and muscular aches and pains, rather than that of visceral origin.

In high dosages, aspirin may produce a toxic effect on the central nervous system characterized by stimulation followed by depression which may resemble alcoholic intoxication but without the euphoria.[14] Confusion, high-tone deafness, tinnitus, stupor, and coma may occur. It is thought that the nausea and vomiting which may accompany aspirin intoxication are due more to its action on the vomiting center in the medulla than to gastrointestinal irritation.

Gross and Greenberg[1] concluded from their review of the literature that therapeutic doses of aspirin have no significant effect on the cardiovascular system. High dosages may cause some vasodilatation due to direct effect on the smooth muscle of the blood vessels. Toxic amounts depress the circulation both directly and by central vasomotor paralysis. In those patients given large doses, as for treatment of acute rheumatic fever, there is an increase of about 20 per cent in circulating plasma volume, with, of course, a relative decrease in the hematocrit.[2]

It is generally agreed that salicylates exert a specific stimulatory effect on respiration,[1,2] the mechanism of which is not fully understood. For many years it was felt that the dyspnea seen in salicylate overdosage was secondary to a metabolic acidosis, but studies of pulmonary ventilatory indices have shown the effect to be neurogenic. Doses in the ranges used for rheumatic fever therapy cause a primary hyperventilation which markedly increases respiratory minute volume.

After a total dose of 12 grams of aspirin given orally to normal adults over a nine-hour period, respiratory volume was increased by an average of 4 liters per minute, an increase of about 60 per cent. This hyperventilation usually is not associated with tachypnea unless intoxication is present. With salicylate plasma levels of 35 mg. per cent, one almost always sees hyperventilation, and severe dyspnea occurs when the level approaches 50 mg. per cent. Dyspnea is also seen in certain hypersensitivity reactions characterized by asthmatic episodes. Lethal doses of salicylates in animals cause central respiratory paralysis secondary to circulatory collapse and anoxia.[2] Quincke in 1882 reviewed the fatal cases of salicylate poisoning which followed its introduction into medicine. He felt that dyspnea was characteristic of intoxication and that it was central in origin because of the autopsy finding of cerebral congestion.[15]

Epigastric distress, nausea, and vomiting are seen in a few sensitive individuals after comparatively small doses of aspirin. These are probably due to local irritating effects. After large doses, gastric symptoms are due more to central action of the drug on the vomiting center.

Damage to the liver occurs in poisoning by large doses of aspirin; large doses have a choleretic action, apparently increasing bile flow due to direct action on liver cells with no damage to the liver parenchyma.[2]

Normal renal function is generally unaltered by small doses of aspirin. Large doses may produce renal impairment with albuminuria, red blood cells, and casts, which disappears without residual damage when the medication is discontinued. In amounts great enough to produce poisoning, nephritis may result.[1]

Large doses of salicylates are thought to alter cellular metabolism. The normal function of the liver in carbohydrate metabolism may be changed. This may explain the presence of certain reducing substances in the urine which are distinct from glucose. In rats, liver glycogen disappeared almost completely four to six hours after salicylate ingestion.[16] Salicylates also increase the urinary excretion of urates, often by as much as 100 per cent, by inhibiting tubular resorption and thereby increasing its renal clearance. This action is markedly dependent on dosage.[2]

Salicylates in sufficiently large doses are known to exercise a thrombinopenic effect. An alteration in the prothrombin time is rarely seen except with large or repeated doses as in the treatment of rheumatic fever. It is felt that aspirin therapy also produces a capillary fragility, which in a given person is proportional to the dosage taken.[17] Frick[18] feels that the development of increased capillary fragility may be in part an individual sensitivity because of its relative infrequency, and especially when it occurs with a small aspirin intake. A blocking of the utilization of Vitamin K is thought to be a factor in prothrombinemia as the administration of Vitamin K overcomes the effect of the aspirin.

The usefulness of aspirin in rheumatic disease is due to its ability to reduce pain, immobility, swelling, and inflammation. This response is so specific in acute rheumatic fever that it has been used as a therapeutic

test in differential diagnosis. The course and complications of the disease remain unaltered. The anti-inflammatory action of aspirin, while "ACTH-like," may very well be unrelated to stimulation of the anterior pituitary-adrenocortical system since it also occurs in hypophysectomized and adrenalectomized animals.[2] Salicylates are also thought to increase the excretion of Vitamin C.

There is not clear-cut information in the literature with regard to toxic or lethal dosages of aspirin. About the most definite statement is that there is wide variation in toxicity in man. The toxicity of salicylates is probably in direct relation to the rate of rise of salicylate concentration in the plasma as well as the actual attained concentration.[6] Salicylate plasma concentrations depend both on the total drug intake and the rate of urinary excretion. Obviously a diminished renal output with moderate intake would have the same toxic potential as a much larger intake with good renal function.

Although the proper and safe dosage of aspirin is controversial, an inspection of the findings of various investigators may be of benefit. Farber et al.[19] studied the effects of so-called therapeutic doses of aspirin on 10 normal adults by giving hourly doses of 1.3 gm. orally for a total of 12 gm. Respiratory volume and rate, blood pressure, pulse rate, temperature, plasma CO_2, and serum pH and base bicarbonate were determined together with serum salicylate levels, at two-hour intervals for 16 hours and also at 28 hours. They found that in all subjects there was an increase in respiratory volume and serum pH and decreased CO_2 and base bicarbonate with maximum displacement of the acid-base balance two to four hours after maximum salicylate blood levels (average 39 mg. per cent) were reached. There was no significant alteration in respiratory and pulse rate, temperature, or blood pressure.

A study of salicylate tolerance in children was made by Dubow and Solomon.[20] Twenty patients were given varying doses of salicylate. Daily dosage 0.15 gm. (2.5 gr.) per Kg. resulted in intoxication in a majority of patients between 4 and 11 years of age while a dosage of 0.10 gm. failed to achieve what was considered an optimum therapeutic salicylate level.

Erlanson and Burke[21] state that the usual recommended pediatric dosage of aspirin is 0.065 gm. per year of age administered as often as every four hours. Toxic effects were noted by them after ingestion of 60 mg. per pound (150 mg. per Kg.) of body weight. Barnett et al.[22] give the equivalent of the above dosage schedule of 60 mg. per year as approximately 40 mg. per Kg. per 24 hours in six divided doses. In their study intoxication resulted from two to four times this recommended dosage. One must bear in mind the age and physical state of the children involved in these studies and, since these cannot be equated, perhaps contradictions in results are more apparent than real.

Erganian et al.[16] found that salicyl compounds when given in dosages from 60 mg. per Kg. per 24 hours in six divided doses (approximately 30 mg. per pound) tend to accumulate in significant amounts as shown by determination of plasma levels. They further felt that studies made in well children could not be accurately compared with the ability of an already ill child to tolerate a given dosage. At the time of these authors' publication, the highest plasma salicylate level reported in a child who lived was 68.5 mg per cent. Erlanson and Burke[21] have subsequently reported a level of 73 mg. per cent. In the series from the University of Kansas Medical Center, a blood salicylate level of 67 mg. per cent was obtained on the day following admission on a one-year-old patient who subsequently improved rapidly.

Intoxication

The clinical manifestations of aspirin poisoning vary in different age groups. The warning symptoms of early salicylism which are often seen in older children and adults, such as tinnitus, vertigo, headache, and deafness, may not be noted in infants and children. Their recognition at best is correlated with the ability of self-expression, and therefore the symptoms are likely to be overlooked in the very young.

Various authors[7, 10, 16, 20, 22] have not agreed entirely as to which presenting symptom is seen most frequently. However, in general, it is agreed that hyperpnea is the outstanding clinical manifestation, while anorexia, nausea and vomiting, and lethargy are prominent findings. Other symptoms seen on occasion are tinnitus, dizziness, irritability, stupor, fever, generalized convulsions, pallor, cyanosis, abdominal pain, epistaxis or other hemorrhagic phenomena, and dehydration.

The chief presenting symptomatology in patients from this hospital were vomiting, hyperpnea, and lethargy, in the order of their frequency. Vomiting was the one constant finding. Petechiae, pallor, convulsions, and coma have been seen much less frequently.

Although the foregoing findings may appear to differ somewhat, there is no real discrepancy. As the severity of the signs and symptoms generally parallels the salicylate blood level,[4] it is to be expected that the clinical manifestations in any given case will be in accord with the severity of the intoxication and that the presenting symptoms will vary accordingly. Vomiting is thought to usually precede hyperpnea.[6] Approximately 50 per cent of all individuals with a blood level of more than 30 mg. per cent experience

nausea and vomiting.[2] Winters[4] feels that the presence of hyperpnea is an indication of serious intoxication, although less conspicuous respirations do not necessarily mean that the poisoning is mild. A progression of symptoms has been noted by Wallace;[12] as the salicylate blood level rises there is sweating, nausea, vomiting, diarrhea, and delirium or coma. Hyperpnea, which marks the beginning of the end stage of intoxication, may be the first sign noted in children. The phase of dyspnea is followed by respiratory failure, circulatory collapse, convulsions, and death.

In addition to the gastrointestinal and central nervous system effects, hemorrhagic phenomena (petechiae, epistaxis, bleeding gums, etc.) are sometimes noted. A diffuse toxic encephalopathy has also been noted.

Apart from the toxic manifestations of aspirin overdosage, there is the occasional hypersensitivity reaction to a small dose of the medication. The incidence of sensitivity is quite low, approximately one person in 500, and it often occurs where there is a history of allergy. Two-thirds of sensitive individuals show an asthmatic type of reaction, other types being angioneurotic edema, urticaria, or anaphylaxis.

With an adequate history, the diagnosis of aspirin intoxication is fairly straight-forward. However, in the absence of such a history, the presenting symptomatology may be such that aspirin as an etiology is overlooked because of its mimicry of other toxic states.[23]

Cerebral symptoms may range from headache and vertigo to stupor, coma, and death. Therefore, in any given case the diagnosis of primary central nervous system disease or psychosis may be assumed. A diagnosis of nephritis may be made when pathological changes in renal function (albuminuria, red blood cells, and casts) occur secondary to aspirin intoxication. The petechiae sometimes seen may simulate some blood dyscrasias. Difficult respirations, especially if accompanied by fever and/or other compatible physical findings, may simulate an acute infectious disease.

A seriously ill child with hyperpnea, positive tests for sugar and acetone in the urine, decreased blood CO_2, and increased blood sugar might easily be mistakenly diagnosed as having diabetic acidosis. Quincke noted the similarity of the dyspnea seen in salicylate poisoning to that seen in diabetic acidosis.[23] If an occasional erroneous diagnosis of diabetes is to be avoided, the possibility of salicylate intoxication must be kept in mind.[6]

Arena[7] states that the possibility of poisoning should be considered in any puzzling situation where the differential diagnosis presents a difficult problem. Any infant, Wallace feels, who presents the combination of fever, dehydration, hyperpnea and lethargy should be suspected of having salicylism.[12]

In view of its protean clinical manifestations, a diagnosis of aspirin poisoning can be confirmed only on the basis of the clinical picture coupled with high plasma concentrations of salicylate. High plasma concentration in addition to laboratory findings of acid-base alterations is indicative of salicylate poisoning. It is important to determine the precise nature of the metabolic disturbance, and this is possible only by determining the CO_2 content *and* pH of the blood.

It is evident that most of the signs and symptoms of aspirin poisoning result from the toxic effect of the salicyl radical on the brain, kidneys, and liver with concomitant changes in the electrolyte balance.

The changes in acid-base balance which attend aspirin intoxication are of especial interest in pediatrics since, in infants and children, they are the most extreme and most confusing aspect of the problem. The nature of this acid-base alteration has not been clearly understood as the biochemical changes present when the patient is first seen may represent one phase in a progression of changes rather than the total picture. Also a failure to do concomitant blood pH and CO_2 determinations and an attempt to compare experience with animals and adults with children, sick or well, further confuses the picture. A complete study of the acid-base disturbance found in salicylate intoxication was made by Singer,[24] who has delineated the mixed nature of the disturbance. There now seems to be fairly uniform agreement[4, 6, 12, 13, 16, 20, 22, 24, 25, 26] as to the pathologic physiology of aspirin poisoning.

Salicylate exerts a primary stimulating effect on the respiratory center. Doolan et al.[25] feel that the decreased CO_2 and increased pH seen early plus the histological demonstration of central nervous system damage is corroborating evidence that the hyperpnea caused by salicylate is central in origin, although there is general uncertainty as to the mechanism. The respiratory center stimulation is initially one of depth rather than rate. The degree of stimulation is thought to be correlated with the level of "free" salicylate as opposed to bound, in the serum and possibly also with the period of drug administration.[24] Hyperventilation develops which results in a loss of CO_2 from the alveoli and then from the blood.

The pH of the blood is maintained at the optimum physiologic level of 7.41 by the blood bicarbonate buffer system in large part. The concentration of $B.HCO_3$ and $H.HCO_3$ is normally maintained in a ratio of 20:1. The immediate defense of this ratio is principally a function of the control of $H.HCO_3$ by respiration. Less rapid acting renal mechanisms are chiefly responsible for the $B.HCO_3$ level.

The primary hyperventilation results in a "blowing off" of CO_2 with a reduction in the plasma $H.HCO_3$ and a relative excess of $B.HCO_3$. This produces an increase in the normal 20:1 ratio, and the blood pH rises. A patient seen at this stage will have a moderate decrease in blood CO_2 content and a more marked increase in blood pH despite the clinical appearance of acidosis. This is the stage of uncompensated respiratory alkalosis.

The body seeks to remedy this situation by mechanisms aimed at ratio-repair. These compensatory mechanisms minimize but never completely correct the pH changes. The only means of compensating for CO_2 deficit is the concomitant decrease in $B.HCO_3$—a renal mechanism. This can be done through the retention of chloride which would decrease the residual base available for combination with HCO_3—and therefore the $B.HCO_3$.[27] This is accomplished in the presence of normal renal function; at this point the urine may be alkaline. However, salt depletion or altered renal function makes this quite variable. A second compensatory mechanism is the accelerated transfer of hydrogen ions to the extracellular fluid from the cells.[4]

In adults and older children with mild to moderate degrees of poisoning, the acid-base disturbance does not develop beyond the stage of respiratory alkalosis, the diagnosis of which is often missed because a determination of the blood pH was not done.[13] After the drug is withdrawn, there is a gradual return to normal over as long as three days.[24]

However, in infants and old patients with severe toxicity, the respiratory alkalosis is complicated by the appearance of a primary decrease in buffer base through the accumulation of fixed acids. This second and more severe phase is a mixed disturbance, a combination of primary CO^2 and primary buffer base deficit. At this point the CO_2 content is markedly decreased and the pH drops first to normal, then to a level below 7.4, but seldom below 7.2.[24]

There are again attempts at compensation for the pH drop. The respiratory center is further stimulated by the increasing acidity of the blood, and a secondary hyperpnea develops in an effort to reduce the $H.HCO_3$ content of the blood. As this continues, respiration begins to fail because of fatigue and lethargy. With the depletion of base and increasing acidosis on the possible basis of starvation and increased metabolism, continuing hyperventilation is imperative in an attempt to prevent a relative excess of $H.HCO_3$.

If, at this point, when hyperventilation is a physiologic necessity, the respiratory center becomes poisoned or the patient lags because of inability to keep up with the rapid pace, uncompensated metabolic acidosis ensues. On the average, respiratory efforts seem only 50 per cent efficient as a compensatory mechanism.[16]

The exact metabolic alterations which are responsible for the change in the acid-base picture are not clear. It is likely partially due to dietary and metabolic acidosis and is made even more severe by the previous depletion of fixed base.[26] Singer[24] feels that the primary metabolic acidosis cannot be due to salicylate per se, the usual kind of ketosis or renal failure with retention of sulfate and phosphate, but probably involves a change in intermediary metabolism at the cellular level with the accumulation of organic acid metabolites, including acids chemically distinct from ketone bodies. On the basis of some of his experimental data, Winters[4] hypothesizes that the metabolic acidosis of salicylism represents an exaggeration of the normal reaction to starvation due to inadequate glycogen storage in the liver. Erganian et al.[16] believe also that the decreased intake of food, fluids as well as nourishing substances, is a key factor in production of metabolic acidosis in infants, and that starvation from anorexia and vomiting may be responsible for the apparent ketosis.

There is a correlation between the age of the patient and the type of metabolic disturbance seen in salicylate intoxication. In adults and older children, the blood pH was generally on the alkaline side of normal with a lowering of the buffer base by only a few milliequivalents per liter. Infants and young children below the age of 6 show a much more marked reduction in buffer base with the pH usually on the acid side.[24] Wallace[12] estimates that about one-half of patients with hyperpnea when first seen are in the stage of respiratory alkalosis. The time required for the transition to a mixed disturbance with its CO_2 and buffer base deficit is variable (one to eight hours) but generally occurs more rapidly and to a more marked degree in infants and young children.[6] Patients in the pediatric age range vary considerably in their susceptibility to salicylates. Erganian et al.[16] found that all 11 of their cases of aspirin poisoning showed a metabolic acidosis with a lowered pH and serum CO_2 content at the time of hospitalization. Younger patients showed a more pronounced shift toward acidosis than older ones.

There is no clinical means of distinguishing between the two types of metabolic disturbance, yet such a differentiation is essential. The urine pH is not a wholly reliable finding; an alkaline urine indicates alkalosis, but an acid urine may mean either acidosis or alkalosis with salt depletion.[4] Erganian et al.[16] feel that the most significant data with regard to acid-base imbalance are those obtained from the urine pH, blood pH, and CO_2 content.

Treatment

The management of salicylate poisoning is largely symptomatic and depends on the stage of intoxication present when the patient is first seen. An ob-

vious medical emergency may be presented or deceptively mild symptomatology may be seen. Therefore, any treatment plan, to be rational, needs to be individualized.

Mild intoxications usually respond readily to the withdrawal of the drug. Wallace's experience has been that hospitalization and observation of any child who has accidentally ingested aspirin is indicated even though he may appear asymptomatic at the time.[12] This practice is also followed at this hospital. If there is no vomiting, oral fluids should be forced in order to maintain a high urine volume and expedite renal excretion.

If the patient is seen shortly after ingestion of a large amount of aspirin, gastric lavage should be done using tap water in which aspirin is practically insoluble. Induced emesis may also be an effective method of removing unabsorbed salicylate from the stomach. If hyperpnea is already present, gastric lavage is of little benefit for absorption has already occurred.

As it is entirely impossible to judge clinically where the patient is exactly with regard to metabolic balance, certain laboratory studies should be determined immediately and at four- to six-hour intervals following treatment if the patient is doing well.[16] These not only aid in diagnosis but provide a base line for evaluation of therapy. Urine and blood pH, plasma CO_2 content and salicylate level and prothrombin time should be done. Chloride determinations may be of some benefit.

Vitamin K and Vitamin C should be given routinely. It is said that 1 mg. of Vitamin K will counteract the effects of 1 gm. of salicylate.[13]

Until laboratory values are available, parenteral fluids in sufficient quantity to equal maintenance and estimated deficit requirements should be given. A 5 to 10 per cent glucose solution provides carbohydrate needed to minimize or prevent ketosis as well as fluid. Maintenance potassium requirements should also be provided.

If the laboratory studies indicate the presence of alkalosis, adequate amounts of sodium and water must be provided to aid in renal compensation, avoiding salt depletion. Any tetany noted can be treated with calcium or rebreathing. There has been some thought that the administration of $NaHCO_3$ to increase the rate of urinary excretion of salicylate by increasing the urinary pH would be helpful. It is generally felt that the advantages have been of too little clinical significance to warrant risking a possible accentuation of an already present alkalosis.

A transition to an acidotic state should be anticipated, the time being variable from one to eight hours, appearing inversely proportional to the amount of drug taken.[12] If a blood pH determination cannot be obtained, it is advisable to provide adequate amounts of glucose and water until six to eight hours have passed or until the CO_2 concentration falls to 7 millimoles per liter since, if hyperpnea is still present, one can be quite certain acidosis has occurred.[6,12]

In the presence of acidosis, parenteral alkali is indicated, 6 Molar Na lactate or 5 per cent $NaHCO_3$ being satisfactory. Singer[24] warns that care must be taken to regulate the dosage so that it can be stopped before a shift back into serious alkalosis occurs. He states that every case of severe intoxication passes through a phase of low CO_2 and alkaline pH while going into and coming out of a phase of marked reduction of buffer base. In view of this, Winters[4] has outlined a flexible dosage schedule. "Dosage should attempt to raise the bicarbonate of the blood not to normal, but rather by perhaps only 4 to 8 milliequivalents per liter at first. The amount of lactate or bicarbonate necessary to do this cannot be calculated or predicted. It is probably of the order of 1.5 to 2.5 milliequivalents per Kg. Further doses should be judged by the clinical condition of the patient, together with the pH and CO_2 content of the blood."

The total amount of fluid given should be watched, especially if dehydration is not severe, as aspirin itself tends to increase the circulating plasma volume.[2]

In shock-like states, blood or plasma transfusions may be indicated. Whole blood may also be needed if hemorrhagic phenomena are prominent. Exchange transfusions have been considered[6] as a means of reducing plasma salicylate concentration. This would seem to hold some promise in certain cases of early poisoning with very high plasma salicylate levels.

Lumbar puncture may be effective in the relief of convulsions. Sedation in the form of morphine or barbiturates, either as a means of quieting cerebral irritability or reducing hyperpnea, is distinctly contraindicated because of a synergistic effect with salicylates, deep coma sometimes ensuing.

Doolan et al.[25] advocate the use of hemodialysis in the treatment of severe intoxication. They found that salicylate was cleared more rapidly by the artificial kidney than by a normal kidney. In the presence of high salicylate levels, renal function is almost certain to be impaired. It is felt that hemodialysis should be undertaken as early as possible as the total recovery is greatly increased if the drug has not become "fixed."

It is evident that the wisest course in therapy is that of supporting normal physiologic mechanisms and preventing or minimizing the catabolic and metabolic defects which occur.

Comment

That a problem exists relative to aspirin poisoning is evident. It is equally evident that aspirin is a valuable and useful drug in pediatrics. Therefore it

seems important that a true familiarity with the drug be cultivated in order that it might be used wisely and well.

Poisoning in children occurs from accidental ingestion of quantities of aspirin and also because of inadvertent overdosage by a physician. The Food and Drug Administration in 1955 became so concerned about the accidental aspects of poisoning that they issued a directive requiring manufacturers to label aspirin "conspicuously," warning that the medication be kept out of the reach of children. Also, in place of suggested dosage for young children, the packages must state "For children under three years of age, consult your physician."[27]

Even with greater precautionary measures taken by manufacturers, parents are often not in a position to know that they are dealing with a potentially dangerous drug. Therefore, physicians have an opportunity to practice good preventive pediatrics by warning parents never to self-treat a baby and about the necessity of keeping the household bottle of aspirin tablets out of the reach of young children. Children should also be made to understand that flavored aspirin, while pleasant to take when they are ill, is definitely not candy and possesses the power to make them ill if it is eaten indiscriminately.

Summary

In this study we have surveyed the basic pharmacology, clinical manifestations, pathologic physiology, and treatment of intoxication. The problem of aspirin poisoning was also approached on the basis of incidence, cause, and relation to the advent of candy aspirin. This was done in the hope that an increased knowledge of this useful drug and its potentialities might lead to more efficient function both in therapy and prevention.

Bibliography

1. Gross, M., and Greenberg, L. A.: The Salicylates, A Critical Bibliographic Review, Hillhouse Press, New Haven, 1948.
2. Goodman, L. S., and Gilman, A.: The Pharmacologic Basis of Therapeutics, Ed. 7, Macmillan Co., New York, 1955, pp. 281-299.
3. Bain, Katherine: Death due to accidental poisoning in young children, J. Pediat., 44:616-623 (June) 1954.
4. Winters, R. W.: Salicylate intoxication in infants and children, G.P. 10:67-72 (Aug.) 1954.
5. Hoffman, W. S.: Pitfalls of acetylsalicylic acid medication, Am. J. Dis. Child. 85:58 (Jan.) 1953.
6. Riley, H. D., Jr., and Worley, L.: Salicylate Intoxication, Pediatrics, 18:578-591 (Oct.) 1956.
7. Arena, J. M.: Poisoning in Infants and Children in Ped. Clinics of N. America, Symposia on Accidents and Emergencies and Pediatric Allergy, W. B. Saunders Co., Phila. (Nov.) 1954, pp. 771-785.
8. Editorial: Infant deaths from aspirin, J. Pediat. 42:-276 (Feb.) 1953.
9. Council on Pharmacy and Chemistry: Candy medication and accidental poisoning, J.A.M.A. 158:44-45 (May 7) 1955.
10. Maggioni, G. F.: Salicylate therapy in children, Arch. Dis. Childhood 23:40-46, 1948.
11. Smith, P. K.; Gleason, H. L.; Stoll, C. G., and Ogorzalek, S.: Studies on the pharmacology of salicylates, J. Pharmacol. & Exper. Therap. 87:237-254 (July) 1946.
12. Wallace, W. M.: The use of salicylates in pediatrics, Quart. Rev. Pediat. 9:135-141 (Aug.) 1954.
13. Harvie, F. H., and Singer, R. B.: Salicylate poisoning, A.M.A. J. Dis. Child. 89:149-158 (Feb.) 1955.
14. Fisher, R. S., and Freimuth, H. C.: Common Poisonings and Their Management in Med. Clinics of N. Amer., W. B. Saunders Co., Phila. (Sept.) 1956, p. 1499.
15. Ryder, H. W.; Shaver, M., and Ferris, E. B., Jr.: Salicylism accompanied by respiratory alkalosis and toxic encephalopathy: report of a fatal case, N. Eng. J. Med. 232:617-621 (May 24) 1945.
16. Erganian, J. A.; Forbes, G. B., and Case, D. M.: Salicylate intoxication in the infant and young child, J. Pediat. 30:129-145 (Feb.) 1947.
17. Smith, J. M., and Mackinnon, J.: Etiology of aspirin bleeding, Lancet 2:569-570 (Sept. 29) 1951.
18. Frick, P. G.: Hemorrhagic diathesis with increased capillary fragility caused by salicylate therapy, Am. J. Med. Sciences 231:402-406 (April) 1956.
19. Farber, H. R.; Yiengst, M. J., and Shock, N. W.: The effect of therapeutic doses of aspirin on the acid-base balance of the blood in normal adults, Am. J. Med. Sciences 217:256-262 (Mar.) 1949.
20. Dubow, E., and Solomon, N. H.: Salicylate tolerance and toxicity in children, Pediatrics 1:495-503 (Apr.) 1948.
21. Erlanson, A. C., and Burke, E. C.: Salicylate poisoning in children, Proc. Staff Meet. Mayo Clinic 30:417-422 (Sept. 21) 1955.
22. Barnett, H. L.; Powers, J. R.; Benward, J. H., and Hartmann, A. F.: Salicylate intoxication in infants and children, J. Pediat. 22:214-223 (Aug. 1942).
23. Krasnoff, S. O., and Bernstein, M.: Acetylsalic acid poisoning, J.A.M.A. 135:712-714 (Nov. 15) 1947.
24. Singer, R. B.: The acid-base disturbance in salicylate intoxication, Medicine 33:1-12 (Feb.) 1954.
25. Doolan, P. D.; Walsh, W. P.; Kyle, L. H., and Wishinsky, H.: Acetylsalicylic acid intoxication: proposed method of treatment, J.A.M.A. 146:105-106 (May 12) 1951.
26. Lipman, B. L.; Krasnoff, S. O., and Schless, R. A.: Acute acetylsalicylic acid intoxication, Am. J. Dis. Child. 78:477-483 (Oct.) 1949.
27. Spector, S., and McKhann, C. F.: Respiratory acidosis and alkalosis in children, J. Pediat. 32:227-245 (Mar.) 1948.
28. Washington News: Warning labels on packages of salicylates, J.A.M.A. 159:14 (Adv.) (Nov. 5) 1955.

Additional References

1. Aikman, J.: Pediatric emergencies, pediatrics 2:209-221 (Aug.) 1948.
2. Arena, J. M.: Accidental poisoning in children, N. C. Med. J. 9:615-619 (Dec.) 1948.
3. Arena, J. M.: Accidental poisoning in children, Ciba Clinical Symposium, Vol. 3 (April-May) 1951.
4. Carver, G. M.; Arena, J. M., et al.: Clinic on poisoning, J. Pediat. 32: 207-214 (Feb.) 1948.
5. Greenberg, L. A.: An evaluation of reported poisonings by acetylsalicylic acid, N. Eng. J. Med. 243:124-128 (July 27) 1950.
6. Keller, W. J., Jr.: A rapid method for the determination of salicylates in serum or plasma, Am. J. Clin. Path. 17:415-417 (May) 1947.

In 1956, there were 2,368,000 Americans injured in traffic accidents.

Annual Meeting

Officers Elected, Reports Given, Specialty Group Sessions

The 99th annual meeting of the Kansas Medical Society, held at Kansas City, May 4-7, was attended by 685 members of the Society. Also registered for the session or affiliate meetings were 423 guests (interns, residents, medical students), 196 members of the Kansas Medical Assistants' Society, 189 members of the Woman's Auxiliary to the Kansas Medical Society, and 203 members of the Kansas Society of Medical Technologists.

The program announced in the April issue of the JOURNAL was presented. The annual banquet was highlighted by the administration of the oath of office as president for 1958-1959 to Dr. Thomas P. Butcher, Emporia, with Dr. Barrett A. Nelson, Manhattan, presiding. Entertainment was furnished by Herb Shriner, humorist, after which a dance was held.

Plaques were presented at the banquet to winners of awards for scientific exhibits. First prize went to Doctors D. Cramer Reed, William H. Browning, and Harold F. O'Donnell, Wichita, for an exhibit on "Male Infertility: Diagnosis and Treatment." The second award went to a group from the Wichita Clinic and St. Francis Hospital, Wichita, for a display on "Extra Corporeal Circulation." The group included: Doctors John G. Shellito, Aydin Aytac, Robert H. Robinson, Ben H. Buck, Jr., E. P. Carreau, and A. O. Tetzlaff. Dr. J. W. Graves, Wichita, won the third award for his exhibit on "The Use of Synthetic Blood Vessels in Arterial and Aortic Resection." An exhibit on a surgical appliance, prepared by Dr. Cecil C. Hunnicutt, Sabetha, was given honorable mention.

The first meeting of the House of Delegates followed a breakfast at the National Guard Armory on Monday morning, May 5. The second session was held on Wednesday, May 7. Minutes of the meetings will be published in the July issue of the JOURNAL.

Officers for 1957-1958

President ..... Dr. Thomas P. Butcher, Emporia
President-Elect ..... Dr. Glenn R. Peters, Kansas City
Immediate Past President
..... Dr. Barrett A. Nelson, Manhattan
First Vice-President .. Dr. Frederick E. Wrightman, Sabetha
Second Vice-President ..... Dr. Harold M. Glover, Newton
Constitutional Secretary
..... Dr. George E. Burket, Jr., Kingman
Treasurer ..... Dr. John L. Lattimore, Topeka
A.M.A. Delegate, 1958-1959 . Dr. George F. Gsell, Wichita
A.M.A. Alternate, 1958-1959 .... Dr. Cyril V. Black, Pratt
A.M.A. Delegate, 1959-1960 .. Dr. Lucien R. Pyle, Topeka
A.M.A. Alternate, 1959-1960
..... Dr. Norton L. Francis, Wichita
Chairman of Editorial Board . Dr. Orville R. Clark, Topeka

Councilors for 1958-1959

1. Dr. Emerson Yoder, Denton, term expiring in 1960
2. Dr. Joseph W. Manley, Kansas City, 1961
3. Dr. George R. Maser, Mission, 1960
4. Dr. Dick B. McKee, Pittsburg, 1961
5. Dr. Ralph G. Ball, Manhattan, 1960
6. Dr. James A. McClure, Topeka, 1959
7. Dr. Edward J. Ryan, Emporia, 1959
8. Dr. James E. Hill, Arkansas City, 1960
9. Dr. L. S. Nelson, Jr., Salina, 1960
10. Dr. Harold M. Glover, Newton, 1959
11. Dr. William J. Reals, Wichita, 1961
12. Dr. Albert C. Hatcher, Wellington, 1959
13. Dr. H. S. O'Donnell, Ellsworth, 1961
14. Dr. Justin A. Blount, Larned, 1961
15. Dr. Lyle G. Glenn, Protection, 1961
16. Dr. Edward F. Steichen, Lenora, 1959
17. Dr. H. Preston Palmer, Scott City, 1960.

Nominating Committee

Five past presidents of the Society were chosen by the House of Delegates to serve as Nominating Committee for next year, to select candidates for the 1959 election. Elected were: Dr. L. S. Nelson, Salina, chairman; Dr. Conrad M. Barnes, Seneca; Dr. Clyde W. Miller, Wichita; Dr. Haddon Peck, St. Francis, and Dr. Henry N. Tihen, Wichita.

Editorial Board

Dr. Orville R. Clark, chairman of the Editorial Board and editor of the JOURNAL, was reappointed to both positions at a meeting of the Council held in Kansas City on May 7. Dr. Richard Greer was also reappointed to a three-year term on the Board. Serving with them are Dr. David E. Gray, whose term will expire in 1960, Dr. Dwight Lawson, also serving until 1960, and Dr. John A. Segerson, whose term will expire in 1959. All are Topeka physicians.

E.E.N.T. Section

Elected to serve as officers of the E.E.N.T. Section of the Kansas Medical Society for the coming year, at a meeting held in Kansas City on May 5, are: president, Dr. Victor R. Moorman, Hutchinson; vice-president, Dr. Glen Floyd, Winfield, and secretary, Dr. James E. Bresette, Kansas City.

Blue Shield

Dr. Edward J. Ryan, Emporia, was elected president of Kansas Blue Shield at a meeting held at the Town House, Kansas City, on May 4. Other officers are: Dr. James B. Fisher, Wichita, first vice-president; Dr. E. Burke Scagnelli, Dodge City, second vice-president, and Dr. Lucien R. Pyle, Topeka, secretary-treasurer. Dr. Francis T. Collins, Topeka, is immediate past president.

The president and the president-elect of the Kansas Medical Society, Dr. Thomas P. Butcher of Emporia and Dr. Glenn R. Peters of Kansas City, serve on the board of directors along with the following representatives of the 17 councilor districts: Dr. E. T. Wulff, Atchison; Dr. Thomas R. Hamilton, Kansas City; Dr. Monti L. Belot, Lawrence; Dr. Pratt Irby, Fort Scott; Dr. Robert M. Carr, Junction City; Dr. Lucien R. Pyle, Topeka; Dr. A. E. Titus, Cottonwood Falls; Dr. H. J. Brown, Winfield; Dr. H. S. Dreher, Sr., Salina; Dr. Victor R. Moorman, Hutchinson; Dr. Robert K. Purves, Wichita; Dr. James L. McGovern, Wellington; Dr. A. M. Cherner, Hays; Dr. S. T. Coughlin, Larned; Dr. Jerry McNickle, Ashland; Dr. Floyd Smith, Colby, and Dr. Marshall Brewer, Ulysses.

Representing the Members' Committee are Mr. Russell Mosser of Lawrence, Mr. Joe Reilly of Pittsburg, Mr. H. P. Reynolds of Moline, and Mr. J. D. Smerchek, Manhattan. Appointed by the governor are Mr. John Junior Armstrong of Muscotah and Mr. Rolland Jacquart of Sublette.

Kansas Chapter, American Academy oi General Practice

Dr. Floyd E. Dillenbeck, El Dorado, was named president of the Kansas Chapter, American Academy of General Practice, at the annual meeting of the group. Dr. Cloyce A. Newman, Topeka, was chosen to serve as president-elect, and the following other officers were named: Dr. J. Allen Howell, Wellington, vice-president; Dr. Gaylord P. Neighbor, Kansas City, secretary-treasurer; Dr. Lawrence E. Leigh, Overland Park, delegate to meetings of the American Academy of General Practice, and Dr. Jesse D. Rising, Kansas City, alternate delegate.

Kansas Society of Anesthesiology

At a meeting of the Kansas Society of Anesthesiology held on May 5, the following officers were elected: president, Dr. William F. Powers, Wichita; vice-president, Dr. Harold F. Spencer, Emporia; secretary, Dr. LaRue W. Owen, Wichita; treasurer, Dr. Gretchen L. Guernsey, Kansas City; delegate to American Society of Anesthesiology, Dr. Dale U. Loyd, Wichita; alternate delegate, Dr. Paul H. Lorhan, Kansas City.

Kansas Obstetrical Society

Officers for the 1958-1959 year were chosen by the Kansas Obstetrical Society at a meeting held on May 5. The following were named: president, Dr. Edward X. Crowley, Wichita; president-elect, Dr. Robert Sohlberg, Jr., McPherson; vice-president, Dr. Henry M. Foster, Hays; secretary-treasurer, Dr. Arnold H. Baum, Dodge City.

Kansas Orthopedic Club

Dr. Clyde B. Trees, Topeka, became president of the Kansas Orthopedic Club as the result of an election held at the group's annual meeting on May 5. Dr. Henry O. Marsh, Wichita, was named secretary-treasurer. The club made a contribution of $50 to the James B. Weaver Research Fund at the University of Kansas School of Medicine through the University of Kansas Endowment Association.

Kansas Society of Pathologists

The following officers were named by the Kansas Society of Pathologists at a meeting held on May 5: president, Dr. Leo P. Cawley, Wichita; vice-president, Dr. Tom R. Hamilton, Kansas City; secretary-treasurer, Dr. William J. Reals, Wichita.

Kansas Urological Society

A meeting of the Kansas Urological Society was held at the Terrace Club in Kansas City on May 5. Dr. Pratt Irby of Fort Scott was named president for the coming year, Dr. Walter Mau of Topeka was chosen as vice-president, and Dr. William H. Browning of Wichita was elected to represent the group at meetings having to do with Blue Shield or other insurance problems.

Woman's Auxiliary to the Kansas Medical Society

Mrs. R. T. Unruh, Kinsley, was installed as president of the Woman's Auxiliary to the Kansas Medical Society at the close of the organization's annual convention in Kansas City, May 5-7. Other officers elected at that session are: president-elect, Mrs. Louis G. Graves, St. John; first vice-president, Mrs. Chester L. Young, Kansas City; second vice-president, Mrs. Paul H. Wedin, Wichita; third vice-president, Mrs. L. S. Nelson, Jr., Salina; fourth vice-president, Mrs. Virgil E. Brown, Sabetha; recording secretary, Mrs. Edward D. Greenwood, Topeka; treasurer, Mrs. William T. Braun, Pittsburg.

Ten councilors were elected for two-year terms, to serve with the seven elected last year. The complete group, by districts, is as follows: District 1,

Mrs. F. I. Stuart, Atchison; District 2, Mrs. Louis G. Graves, St. John; District 3, Mrs. Alex C. Mitchell, Lawrence; District 4, Mrs. Guy W. Cramer, Parsons; District 5, Mrs. James D. Colt, Sr., Manhattan; District 6, Mrs. Francis T. Collins, Topeka; District 7, Mrs. Richard P. Schellinger, Emporia; District 8, Mrs. Glen E. Kassebaum, El Dorado; District 9, Mrs. H. Richard Draemel, Salina; District 10, Mrs. George A. Westfall, Jr., Halstead; District 11, Mrs. H. Lee Barry, Wichita; District 12, Mrs. Leeman C. Joslin, Harper; District 13, Mrs. John C. Artman, Hays; District 14, Mrs. C. Everett Brown, Stafford; District 15, Mrs. Darwin Richardson, Minneola; District 16, Mrs. James J. Marchbanks, Oakley; District 17, Mrs. Robert Fenton, Garden City.

Kansas Medical Assistants' Society

The 18th annual meeting of the Kansas Medical Assistants' Society was held at the Town House Hotel, Kansas City, May 2-May 4. At its business session the group put special emphasis on its program of education for assistants and on strengthening the new national organization.

Mrs. W. W. (Edna) Crosson, Lyons, was installed as president at the final session. She will be assisted during her year in office by Mrs. Larry F. (Ruth) Sieverling, Wichita, president-elect; Miss Marge Slaymaker, Newton, vice-president; Miss Dorothy Dora, Kansas City, secretary, and Mrs. W. L. (Ruth) Jones, Topeka, treasurer. The corresponding secretary, appointed by the president, will be Mrs. Sidney (Virginia) Brown, Larned.

The following four were chosen to attend the meeting of the American Association of Medical Assistants as delegates from Kansas: Mrs. Crosson, Mrs. Sieverling, Mrs. Pauline Keller of Topeka, and Miss Hope Finley of Hutchinson. The national meeting will be held in Chicago this fall.

Kansas Society of Medical Technologists

Miss Kathern Forest, Wichita, was installed as president of the Kansas Society of Medical Technologists at the close of the organization's 11th annual convention in Kansas City on May 7. Other officers are: Mrs. Mary Nugent, Lawrence, vice-president; Miss Ina Mae Shantz, Wichita, secretary, and Miss Lillian Thiessen, Newton, treasurer. Newly elected members of the board of directors are Miss Edith Bossom and Miss Phyllis Boyle, both of the University of Kansas Medical Center.

Report of Editor of Journal

I can say that the JOURNAL has grown statistically, having consisted of 1,232 pages in the last fiscal year, and with a small increase in the number of scientific articles, while maintaining the same number of Clinicopathological Conferences, Tumor Conferences, and theses as in the last few years. However, statistics do not tell the whole story, and the number of pages or articles does not necessarily express with accuracy the usefulness of the JOURNAL—or its lack! Financially the JOURNAL is in sound condition.

We are most pleased to present to our readers a series of short articles prepared by the Committee on Maternal Welfare, based on a study of maternal deaths in the state. Similar pages are or will soon be published reporting the activities of the Committee on Child Welfare and the Committee on Mental Health. The reporting of committee activities is something which we feel is an important function of the JOURNAL, and reflects a useful activity of our committees. I hope that other committees will see fit to write about their activities and submit the reports to the JOURNAL.

The placing of advertisements in the JOURNAL was changed starting with the January 1958 issue. Except for the four-page center spread (which does not include any numbered pages and is consequently removable) all advertisements are now located either at the front or at the back of the issue and are not interspersed with text material. It should make for easier reading, and if one wishes to remove text pages for temporary or permanent use, this can now be done without taking advertisements with the extracted material. We hope it will help to make the JOURNAL easier and more pleasant to read.

The increase in the amount of advertising, which I am sure has been noticeable to all readers, is a situation which produces mixed feelings. Obviously an increase in advertising means an increase in income, and for this we are, naturally, grateful. It has made the financial status of the JOURNAL more secure than previously. However, it also makes a JOURNAL which is less attractive to some readers, and this we do not like. We do not have such need of additional income that advertisements need be accepted to the point of detracting from the principal features of the JOURNAL, and we do not wish to do that. The rejection of suitable advertising presents some problems, but it may be necessary. The advertising, even with the recent increase, has not, and it should not, exceed the text material, but the Editorial Board is conscious of the fact that it is not an unmixed blessing and is giving consideration to the situation. We do feel that the present method of placing the advertisements in a separate section, rather than mixed with text material, does away with part of the objection to the increased amount.

During the past year the Editorial Board has given considerable thought to the future policy of

the JOURNAL. This has been brought to the fore partly by the continuing shortage of available scientific papers—a situation which has been presented to you in various previous reports of the editor. In spite of repeated pleas for papers, there has been little improvement in the availability of scientific material for publication, although we all know that there could be plenty of interesting papers from our members. Obviously the JOURNAL could have its best scientific section if there were many more papers submitted than we could publish. That would make it possible to pick out those which seemed the best and return the others. We recognize the lure of specialty journals, and of journals which have a national distribution, yet one of the most often repeated requests in the recent questionnaire was to have more papers from Kansas physicians.

A second reason for considering a future policy was the answers to the recent questionnaire. Some of these answers suggested radical changes. One—from a number of sources—was to discontinue the scientific section altogether and make the JOURNAL a news bulletin for the Kansas Medical Society. We of the Editorial Board had seriously considered this possibility even before the questionnaire was submitted, and while we do not favor it, we recognize that if there is not sufficient scientific material of satisfactory quality, such a change might become necessary. My personal reaction is that such a change would be an admission of our failure to publish a decent JOURNAL, and would be the acceptance of a second-choice or substitute type of periodical. I hope that it will not be necessary.

The answers to the questionnaire are both interesting and thought-provoking. Obviously the easiest way to answer is to write nothing; it requires only a little more effort to express the attitude that "everything is fine as it is"; a little more is needed to offer criticisms; and most of all is required to suggest changes for the improvement of the situation. These latter two groups, although not flattering, we must accept as being given in good faith, after due deliberation, and with the intention of being helpful. As such, they deserve careful consideration.

The variation in answers is interesting. For example: "The improvement of this JOURNAL over the period of the last 8-10 years is phenomenal," and "Over the past few years I have seen the JOURNAL . . . change from one that I anticipated each month, to one that is on my desk only a few minutes before it lands in the trash can," and ". . . who would be foolish enough to believe that more than ten per cent of the in-state doctors . . . actually read the JOURNAL? Why waste the effort and the money on such a useless project?" It is certainly difficult to please everybody all the time. Of that much we can be sure!

Other suggestions which were offered and which justify careful consideration are: to include more articles by Kansas physicians, to have more but shorter scientific articles, to have more news notes and activities of physicians, to have more symposia, to include medical history, and more articles on basic sciences. Some would also like to eliminate various present features.

I believe that we are at the crossroads for the future policy of the JOURNAL. The most significant "vote" for a continuation of the scientific section would be a significant increase in the number of scientific articles submitted for consideration. It is my personal feeling that our greatest deficiency is in not having active participation by more Kansas physicians—in the writing of material to be submitted to the JOURNAL, be it scientific material, news notes, humor, letters-to-the-editor, committee reports, or other material.

I am not as pessimistic as this may have sounded. I only wish to have you realize that there are some problems which confront the JOURNAL staff beside that of getting copy to the printer for a specific issue. Your opinions and suggestions are always welcome and respected and will be given careful consideration.

Although I have exhausted ways of expressing my appreciation to those who do the work of getting the JOURNAL ready each month, I cannot conclude this report without special appreciation to the members of the Editorial Board (Richard Greer, David E. Gray, Dwight Lawson, and John A. Segerson); to Vernon E. Wilson of the University of Kansas School of Medicine, who edits all the material from that source; to Oliver Ebel and Rueben Dalbec of the office of the Society; and "last but most" to our faithful Pauline Farrell. Without the work of these people there would be no JOURNAL, and in spite of criticisms, I am sure that you join with me in expressing appreciation to all of these people for their contributions.

Orville R. Clark, M.D., Editor

Report of Constitutional Secretary

This is the membership report of the Society for 1958:

Dues-paid members	1,443
Honorary members	170
Leave-of-absence members	55
In-service members	13
Delinquent members	169
Total	1,850

In 1953 the total membership was 1,767; 1954, 1,824; 1955, 1,843; 1956, 1,842; 1957, 1,842.

There now is a gain of eight members, but it is more significant that there has been an increase of 50 in dues-paying members.

George E. Burket, Jr., M.D., Secretary

Sports Events

Awards for sportsmen who excelled at golf and shooting were presented at a stag banquet at the Victory Hills Golf and Country Club on Wednesday evening, May 7. Members of the Kansas Bar Association were guests. Winning prizes at golf were:

Championship flight: Dr. Fred N. Bosilevac, Kansas City, winner; Dr. A. W. Bradford, Overland Park, second low gross; Dr. Glen Ashley, Chanute, third low gross; Dr. A. L. Ashmore, Wichita, fourth low gross; Dr. J. R. Weaver, Wichita, fifth low gross; Dr. John F. Coyle, Coffeyville, first low net; Dr. Robert K. Purves, Wichita, second low net, and Dr. H. L. Bunker, Junction City, third low net.

First flight: Dr. Hubert M. Floersch, Kansas City, winner; Dr. M. W. Hall, Wichita, second low gross; Dr. Henry B. Sullivan, Jr., Shawnee, third low gross; Dr. K. L. Knuth, Mission, first low net; Dr. Clifford J. Mullen, Kansas City, second low net, and Dr. James W. Shaw, Wichita, third low net.

Second flight: Dr. M. Kirk Miller, Jr., Topeka, winner; Dr. Robert P. Norris, Wichita, second low gross; Dr. Glen Floyd, Winfield, third low gross; Dr. H. Lee Barry, Wichita, first low net; Dr. Paul R. Carpenter, Kansas City, second low net, and Dr. H. R. Hodson, Wichita, third low net.

Third flight: Dr. Martin J. Rucker, Sabetha, winner; Dr. William L. Padgett, Wichita, second low gross; Dr. J. E. Moseley, Wichita, third low gross; Dr. Wilson K. Hobart, Topeka, first low net; Dr. Kenneth L. May, Bonner Springs, second low net, and Dr. Marvin H. Hird, Wichita, third low net.

Fourth flight: Dr. Frank J. Strick, Kansas City, winner; Dr. Charles A. Crockett, Kansas City, second low gross; Dr. Charles R. Rombold, Wichita, third low gross; Dr. William F. Roth, Jr., Kansas City, first low net; Dr. E. C. Sifers, Kansas City, second low net, and Dr. Robert Sohlberg, Jr., McPherson, third low net.

Winner of the trap shoot was Dr. W. A. Smiley, Sr., Junction City. Other shooting prizes were won by Dr. Murray C. Eddy, Hays, second; Dr. Haddon Peck, St. Francis, third; Dr. E. A. Smiley, Junction City, fourth; Dr. L. S. Nelson, Salina, fifth; Dr. George L. Gill, Sterling, sixth, and Dr. Robert P. McCarthy, Kansas City, tyro.

The following firms contributed to the success of the sports events: Abbott Laboratories, American Optical Company, Ames Company, Inc., Armour Laboratories, George A. Breon and Company, Burroughs Wellcome Company, Ciba Pharmaceutical Products, Inc., Eaton Laboratories, Ethicon, Inc., Gerber Products Company, Hoffmann-LaRoche, Inc., W. E. Isle Company, Eli Lilly and Company, Mead Johnson and Company, Merck, Sharp and Dohme, William S. Merrell Company, Mid-West Surgical Supply Company, Inc., Munns Medical Supply Company, National Drug Company, Pet Milk Company, A. H. Robins Company, Sandoz Pharmaceuticals, W. B. Saunders Company, Schering Corporation, Smith, Kline and French Laboratories, U. S. Vitamin Corporation, White Laboratories, Winthrop Laboratories, and Wyeth, Inc.

Board of Health Appointments

Several appointments announced recently by Governor George Docking filled vacancies occurring on the Kansas State Board of Health at this time of year. Dr. James J. Basham, Fort Scott, and Dr. Earl C. Sifers, Kansas City, were named recently to complete the group of five physicians. Still on the board from previous appointments are Dr. Theodore E. Young, Winfield; Dr. Richard O. Nelson, Lawrence, and Dr. L. O. E. Peckenschneider, Halstead.

The dentist on the board is Dr. A. A. Herman, Hays. Also serving are: a veterinarian, Dr. Fred B. Ogilvie, Kansas City; a hospital administrator, Mr. Richard E. Stone, Wichita; a pharmacist, Mr. Walter E. Fraese, Hutchinson, and an engineer, Mr. Ed W. Schaefer, Prairie Village.

Dr. Thomas R. Hood, Topeka, serves as executive secretary of the board.

New Assistant to Dean

Dr. Jack D. Walker, who has been practicing in Girard the last four years, has been named administrative assistant to the dean of the University of Kansas School of Medicine in Kansas City. He will assume his new duties in about two weeks. Dr. Walker was graduated from the medical school in Kansas City in 1953.

A.M.A. Films "Outstanding"

Two films produced by the A.M.A., "Even for One" and "A Life to Save," were among the 50 "outstanding TV films" chosen by representatives of the nation's television stations, according to *Variety*, show business publication. Also in the group was "We, the Mentally Ill," produced by Smith, Kline and French Laboratories in cooperation with the A.M.A.

Medico-Legal Problems

The Physician and the Attorney

EDWARD J. RYAN, M.D., ***Emporia***

There are two phases of our mutual problems that I would like to discuss briefly. Both stem from the films which practically all of us have seen here or elsewhere, "The Doctor As a Witness" and "The Doctor Defendant." Either topic could become controversial, and I am anxious to avoid any such situation. However, I feel that there are certain things which should be said from the standpoint of the physician.

Let me say first, though, that it is a real pleasure to me to see this panel on the program as a tangible evidence of cooperation between our two professions. I believe that discussions such as this, implementing the joint code of ethics, will go far to enhance the dignity of each profession—in its own right and in its relation with the other. Of even greater value in this respect would be the functions of a joint medical-legal committee as recommended in the interprofessional code for attorneys and physicians. Such a committee could work continuously at improving relations and could arbitrate minor differences before they became major clashes.

"The Doctor As a Witness" film brought to my mind several rather unpleasant recollections, as I imagine it did to some of you. I have a feeling that many physicians share with me an instinctive unease with respect to lawyers. Not as individuals. Every attorney of my acquaintance is a fine fellow, and as far as I know a man of integrity. However, all that ceases when the subpoena appears or when the request appears for expert testimony. At that point the attorney on your side is a sympathetic, helpful, intelligent gentleman. But the cross-examiner—that's a different story. He is tricky, unscrupulous, and even his ethics may be in doubt—at least by the witness.

This feeling, I think, arises from three facts, all of which are interrelated.

1. *Lack of familiarity on the part of the physician with courtroom procedure.* Most of us, unless we do orthopedic surgery or industrial medicine, don't have too much occasion to testify. Therefore, it is an uncomfortable sensation to leave the familiar realm of medicine, where your opinion is respected by patient and associates, and enter a strange realm where you know your opinion is to be questioned, and even disproved if possible.

2. The second reason is a corollary of the first. The attorney lives in an atmosphere of disagreement with a vocal, competent, and intelligent adversary who is as anxious to win for his client as the first named gentleman is anxious to win for his. The physician has disease as an adversary. This can be just as dangerous but certainly less vocal. Again, as a result, *the physician treads on unfamiliar ground and has difficulty in maintaining the fine objectivity which makes for maximum efficiency* in his courtroom appearance.

3. The third reason likewise stems from the first. *It can be frustrating, annoying, and sometimes humiliating to have one's opinion questioned by one who is not trained in medicine,* sometimes to be badgered without adequate recourse because of the restrictions of courtroom procedure.

Now I know that our attorney friends will say that none of these situations should occur. And probably that is true, but the fact remains that they do. It is certainly granted that they can be minimized by the seasoned medical witness. If he will properly prepare his case (and have all data immediately available), if he avoids speculation and theory, if he speaks simply in simple language, and, above all, if he will avoid anger and say "I don't know" when indicated, he can minimize his problems. Even with all this, testifying can be an ordeal for the average physician. Scrupulous observance of the recommendations in the joint code of ethics by both physician and attorney would go far to simplify this problem.

The other film, "The Doctor Defendant," brings up a dirty word—malpractice. Again, I am anxious to avoid controversy so I will not discuss this topic in detail. However, I think one point might be made.

To the attorney, a suit for malpractice is probably just another suit. He will attempt to win for the plaintiff, as he would for any other client who retains his services. If he loses, no major damage has been done.

To the physician, however, a malpractice suit would be in most instances a shattering experience. The actual monetary loss, win or lose, might not be too important. But, win or lose, the hours of time, the hours of worry and speculation, and, above all, the intangible quantity of loss in professional reputation, all of these are of most importance and cannot be accurately measured.

Perhaps a clearer grasp of this sensation can be obtained by the attorney if we transpose him to the doctor's realm for a moment. I can visualize the physician facing a malpractice suit feeling somewhat as the at-

---

This brief view of mutual problems of the medical and legal professions was presented by Dr. Edward J. Ryan, Emporia, at Kansas City, May 7, 1958, during a panel discussion presented by and for members of both groups.

torney would feel in this situation: He is being prepped the night before for combined abdomino-perineal resection for carcinoma of the rectum next morning, knowing that he will wear a colostomy for the rest of his life. Or, he has had repeated episodes of angina, he knows that coronary thrombosis may be imminent, and he has been warned to avoid the stresses and strains of courtroom practice. I hope I have made this point clear.

Now, admittedly, not all physicians (nor attorneys) are perfect, and inevitably differences will arise between physician and patient on occasion, justified or not. Such differences may well eventuate in suit.

To help solve these differences I would like to suggest a procedure which is by no means original. That would be establishment of a grievance or arbitration committee at state medical society level. Such a committee, with aid of legal counsel, could function as an advisor to the physician, as illustrated in the film. Or it might extend its functions to serve as arbiter in disputes between physician and patient, again with aid of legal opinion and perhaps in cooperation with the Kansas Bar Association. The detailed functions of such a committee are nebulous in my thinking at this time, but I can visualize it as a deterrent to unnecessary legal action affecting physician and patient.

The thoughts expressed here are obviously my own. They reflect the physician's angle (or at least one physician's angle), which is the only approach I have any right to use. They are reflections on two phases of medico-legal relations, presented in the hope of stimulating questions and discussion.

Report on Indigent Care

A new report titled "Medical Care for the Indigent in 1957" has been prepared by the Committee on Indigent Care of the A.M.A.'s Council on Medical Service. This report deals with some of the specific problems that states have encountered under current laws. Two previous reports in the series have dealt with the development of Public Assistance medical care and the changes made by 1956 and 1957 amendments to the program.

Effective July 1, 1957, new federal matching funds were authorized to reimburse the states for part of the cost of providing medical services to recipients of old age, blind, and permanent and total disability assistance, and of aid to dependent children. However, these additional funds could be applied only to payments made directly to the providers of medical services—physicians, hospitals, pharmacists, etc. States applying for these funds could receive federal aid, outside the limits set by this new formula, only for payments made directly to assistance recipients.

In a number of states which had already provided comprehensive medical care for Public Assistance recipients, this new formula required considerable reorganization of the programs if maximum federal aid was to be achieved. The committee's new report examines in detail the problems raised for these states and the federal policies affecting methods of paying for medical services.

DEATH NOTICES

Chester Earle Joss, M.D.

Dr. C. E. Joss, 73, Topeka physician since 1910, died in a Topeka hospital on April 22 after an illness of several months. A graduate of Hahnemann Medical College in Philadelphia, he came to Kansas immediately after completing his schooling and opened his office in Topeka. He specialized in surgery. Dr. Joss was an honorary member of the Shawnee County Medical Society. Among the survivors is a son, Dr. Charles S. Joss, with whom he was associated in practice.

Elmer Andrew Miner, M.D.

A retired physician in Independence, Dr. E. A. Miner, 87, died there on April 25. He had been an honorary member of the Montgomery County Medical Society since 1948. He was graduated from Northwestern University Medical School in 1904, spent two years in internship at Wesley Hospital, Chicago, and then began practice in Independence in 1907. He was the author of a book, *Living the Liver Diet*.

Minuette Smith Mundell, M.D.

Dr. Etta Mundell, 81, retired physician in Hutchinson, died at Grace Hospital there on April 24. She was the widow of Dr. Walter N. Mundell who died in January. She was graduated from the University of Kansas School of Medicine in 1914 and began practice in Hutchinson in 1915. She had been in retirement for 12 years and was an honorary member of the Reno County Medical Society.

Economics in Medicine

The Business Side of Your Practice

FLOYD F. WEHRENBERG, ***Kansas City***

There was a time when business-like procedures were not essential in a medical office. But those were the days long ago when the doctor knew each of his patients personally and all about them, and patients knew almost as much about the doctor. In recent years and particularly in cities, the doctor-patient relationship is much less personal. Consequently the confidence each feels in the other must be based upon more concrete evidences of good faith.

It is true that word of a doctor's ability and fairness is quickly spread. However, there are still many patients who come to you knowing very little about you. Your office—its appearance and procedures—will lead the patient at his first visit to decide whether you are progressive, competent, and fair. It is important this his first impression be favorable!

Besides establishing a good relationship with your patients, you owe it to your family and yourself to be business-like in your practice. Your family deserves a good living, adequate protection in case of accident to you, and a secure future. You have a right to some leisure time, a fair return for your investment and effort in your practice, and an opportunity to retire comfortably at a reasonable age.

It will take effective office procedures and a sound financial program to accomplish these things. In this and subsequent articles we will discuss the most important factors to be considered in setting up such a program.

Your Fee Schedule

Obviously one of the first steps toward financial success as well as fair treatment of all patients is to establish an adequate fee schedule. Most doctors want to have a "standard fee schedule" for the most common office procedures and average surgical and obstetrical cases. It is understood that fees will vary with circumstances, but where identical service is rendered to two of your patients, the fee should also be identical.

Your best guide is your county medical society fee schedule. This should be tailor-made for your community. If you do not have such a schedule, then get your colleagues together for a frank discussion of fees.

Your fees should be in line with your average patient's ability to pay. Do not let the poorest nor the richest man you serve influence your decisions in establishing average fees.

Don't try to be the highest-priced man in your community nor the lowest. Give the patient the best possible care and charge him a just fee based upon the service rendered, your training, ability, and experience. Patients realize that a specialist deserves higher fees for his additional training, but they do not understand great differences between specialists' fees. Nor can they understand why one generalist charges much more or less than another. The greater the variance in fees among doctors in one city, the stronger will be the prejudice and confusion among patients, and the profession as a whole will suffer.

If you practice in partnership, be sure that every partner offering the same service charges the same fee. Nothing is more disturbing to a patient than to discover that one doctor in a group charges more than another for identical treatments. Obviously the patient can conclude only one of two things; either one doctor isn't as good a physician or the other is money-hungry. Either conclusion will be unfavorable to both of you.

An established fee schedule makes your life easier too! You can be certain of less dissatisfaction from patients when they can be shown that the fees charged them are charged to everyone. And it will be a comfort to you to know that your fees are in line with those of your colleagues. The established fee schedule will save you time and worry in setting fees for individual cases. Any deviations will be justified on the basis of complications of the case requiring additional service or, if the fee is lowered, on the basis of the poverty of the patient.

In addition, such a schedule will be helpful to your assistant in explaining fees to patients; and frequently, if you fail to notify her of a charge, she will be able to determine it from the case history without disturbing you.

Finally, the established fee schedule is the basis for explaining obstetrical and surgical fees to patients prior to rendering service. This is a must for harmonious relationship as well as for good collections. So begin your financial program by establishing a standard fee schedule if you do not already have one!

Mr. Wehrenberg is Missouri-Kansas Manager, Professional Management Midwest, 4010 Washington Street, Kansas City, Missouri.

THE MONTH IN WASHINGTON

Editor's Note. The following summary of Washington news was prepared by the Washington office of the A.M.A. for distribution to state and regional medical journals.

The Hill-Burton program for U. S. grants to states to help build hospitals and other health facilities has run a successful course for almost 12 years. It has never been cut back in scope, and once (in 1954) it was expanded to take in diagnostic-treatment centers, nursing homes, chronic disease hospitals, and rehabilitation centers.

On the over-all, the U. S. puts up one-third of the money for a state's projects, but the state may give individual projects as much as two-thirds of their costs.

In the 12 years, 3,725 projects have been completed, are under construction, or have been approved. They represent a total investment of about $3 billion, just under one-third of it federal money. Included are 156,658 hospital beds, 4,542 nursing beds, and almost 1,000 other facilities, such as rehabilitation centers.

Congress, as it has several times in the past, now is being asked to renew the program, which no doubt it will do. Also, the Department of Health, Education and Welfare and several organizations in the health fields have looked over the 12 years' experience and want some changes made in the way the program is handled. None of them, however, wants to end it.

The American Medical Association, for example, is suggesting that diagnostic-treatment and public health centers be dropped from the program, and that the mandatory emphasis on rural communities also be eliminated. These and other A.M.A. recommendations are the result of a 14-state survey by the association.

Also the A.M.A. joins with the Department of Health, Education, and Welfare in proposing that emphasis be placed on facilities for the chronically ill and nursing homes, and that states be given more freedom in shifting money among the various categories.

Both the A.M.A. and the A.H.A. want Congress to authorize loans for hospitals and nursing homes, with the A.M.A. recommending that loan guarantees be offered to proprietary as well as nonprofit institutions.

Before Congress are a dozen or more other suggested changes. Several groups want the research fund raised from the present $1.5 million a year to $4 or $5 million, and HEW would like to be able to advance money for planning when this action would hurry construction. HEW also, along with several Congressmen and state medical societies, would like to see the eligibility requirements eased so more nonprofit groups can build diagnostic-treatment centers. Another HEW proposal would recognize a rehabilitation center even if it did not furnish psychological, social, and vocational evaluation services, as well as medical; now the center has to furnish all four services.

At this writing, indications are that Congress will not allow a slip-up in extending the program, which is scheduled to expire June 30, 1959, even if it has to move along a simple extension bill, then try to work out agreement on all the suggested changes.

Regardless of what happens, Hill-Burton is undergoing more friendly—but critical—examination than it has experienced since its birth in 1946.

Notes

American Association of Medical Colleges estimates that the country's 85 medical schools will require $275 million for rehabilitation and new construction in the next few years, not including money for research and hospital construction.

To learn how far our supplies could be stretched in event of nuclear attack, the Office of Defense Mobilization has asked Public Health Service to survey 700 wholesale drug houses, surgical supply firms, and chain drugstore warehouses for an inventory of their stocks.

American Medical Association, among other groups, is supporting legislation that would request President Eisenhower to call a 1960 White House Conference on the problems of the aged. However, HEW sees no need for the conference, nor does it favor suggestions that a new bureau be set up to handle the problem, nor a commission created.

Dr. Thomas H. Alphin has resigned as director of the A.M.A.'s Washington Office to become associate medical director of the Equitable Life Assurance Society at the group's main office in New York. Dr. William J. Kennard, deputy director, has been named acting director of the Washington office.

VA is calling for bids on 12 construction projects estimated to cost a total of at least $4.2 million. Locations include Murfreesboro, Tennessee; Tomah, Wisconsin; Columbia, South Carolina; Bay Pines, Florida; Newington, Connecticut; Iowa City, Iowa; West Roxbury, Massachusetts; Rutland Heights, Massachusetts; Walla Walla, Washington; Wood, Wisconsin; Wadsworth, Kansas.

PHYSICIANS' ACTIVITIES

Dr. Thomas P. Butcher, Emporia, who became president of the Kansas Medical Society on May 7, was chosen as "Man of the Week" in his home community at that time and was the subject of a feature story in the *Emporia Gazette.*

Cystic fibrosis was the subject discussed by **Dr. Vincent L. Scott,** Wichita, on station KARD, Channel 3, at Wichita last month. The presentation was one of a series on "Your Doctor Speaks."

Dr. William H. Zimmerman, a graduate of Creighton University School of Medicine in 1952, has opened an office for the practice of surgery in Topeka. Dr. Zimmerman has had four years of surgical residency, at St. Joseph Hospital in Kansas City, Missouri, and at Creighton.

A feature story in the *Parsons Sun* on April 23 paid tribute to **Dr. Arthur R. Nash,** 87-year-old physician who has been practicing in Parsons since 1912.

Dr. Lewis L. Robbins and **Dr. Robert S. Wallerstein,** of the Menninger Foundation, Topeka, were co-authors of a paper, "The Strategy and Tactics of the Psychotherapy Research Project of the Menninger Foundation and the Problem of Controls," presented at a recent meeting of the American Psychological Association in Washington, D. C.

Dr. Hoyt C. Blaylock, Wichita, is now serving as president of the Rocky Mountain Dermatological Society.

Plans to practice in Girard have been announced by **Dr. Wesley Hall,** a graduate of the University of Kansas School of Medicine who is completing internship at Bethany Hospital, Kansas City.

Recognition was recently given **Dr. Emmit E. Peterson,** Halstead, for 50 years of service on the staff of the Halstead Hospital. At a dinner attended by 500 persons, he was presented a plaque marking the occasion.

Dr. J. V. Van Cleve, Wichita, will be a guest lecturer at a postgraduate course in dermatology at the Colorado College of Medicine in Denver in July.

Dr. Forrest L. Loveland, Topeka, medical consultant for the Southwestern Bell Telephone Company, was one of the speakers at a meeting held in Wichita recently to acquaint physicians with the company's benefit program.

Plans to join a clinic group at Glencoe, Minnesota, have been announced by **Dr. Donald E. McCoy,** who has been practicing in Oberlin for 10 years.

Dr. Ralph N. Sumner, who recently completed internship at Bethany Hospital, Kansas City, plans to open an office in Fredonia next month.

"A Mental Health Clinic for Wichita" was the subject of a panel discussion presented in Wichita recently, one of the participants being **Dr. C. J. Kurth.**

Dr. Robert E. Stowell, chairman of the Department of Pathology and Oncology at the University of Kansas School of Medicine, recently was named president-elect of the International Academy of Pathology.

At a tea sponsored in Pittsburg recently by the Woman's Auxiliary to the Crawford County Medical Society, **Dr. Roletta Jolly-Fritz,** chief psychiatrist for the out-patient clinic at the Osawatomie State Hospital, spoke on the subject of mental health.

Dr. D. Cramer Reed, Wichita, discussed medical care for the indigent at a meeting of social workers in Wichita recently.

A move to Thermopolis, Wyoming, has been announced by **Dr. Lester D. Bowles,** who has been practicing in Clifton.

Dr. Nathaniel Uhr, Topeka, is vacationing in Europe with stops in England, France, Italy, Denmark, and the Netherlands.

Donating his services to the Red Cross Bloodmobile was the activity chosen by **Dr. J. D. Pettet,** Pittsburg, for the celebration of his 83rd birthday. Dr. Pettet, according to the *Pittsburg Sun,* has no plans to retire. He was honored on his birthday at a party given by the Veterans of Foreign Wars in Pittsburg.

Dr. Christine Thelen, Wichita, spoke on "The Menopause" before the Zeta Beta Psi sorority in Wichita last month.

Dr. Francis E. Bishop, who has practiced in Russell since 1955, left that community last month to begin a residency at the Menninger School of Psychiatry in Topeka.

"Prescribing Hospitalization" was the subject presented by **Dr. Bernard H. Hall,** Topeka, at a meeting of the American Psychiatric Association in San Francisco last month.

Among speakers at the 13th annual Ministers' and Physicians' Clinic, held in Wichita last month, was **Dr. Ernest W. Crow,** Wichita.

Dr. Roy Lawson, superintendent of the Southeast Kansas Tuberculosis Hospital in Chanute, addressed two public meetings recently. He discussed "Current Problems in the Control of Tuberculosis" before the Wyandotte County Tuberculosis and Health Association and spoke on a similar subject before the Business and Professional Women's Club in Cherryvale.

Dr. Karl Menninger, Topeka, has accepted membership on the Advisory Council to the Law-Medicine Research Institute of the Boston University School of Law.

"Psychosomatic Gynecology" was the subject discussed by **Dr. Jerome S. Menaker,** Wichita, before a recent meeting of the Tri-County Medical Society in McPherson.

Dr. James B. Mercer, Lenexa, has announced plans to open a second office in Shawnee.

The list of speakers for a Family Life Institute planned for Belleville in September includes the name of **Dr. Ernie J. Chaney,** Belleville, who will discuss rural school health.

Dr. William J. Reals, Wichita, was recently appointed to the Advisory Laboratory Commission of the Kansas State Board of Health.

THE KANSAS PRESS LOOKS AT MEDICINE

Editor's Note. In this section the JOURNAL *reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.*

Doctors Needed?

We have been reminded repeatedly lately of our shortage of engineers and scientists.

Now comes the *St. Louis Post-Dispatch* to say that we are becoming alarmingly short of medical doctors as well. It points out that the United States now has 78 four-year and four two-year medical schools, or only half-a-dozen more "than were in operation after the closing of the diploma mills early in the century."

Dr. Grayson Kirk, president of Columbia University, is quoted as saying that the United States has fewer doctors per 100,000 of population than it had 20 years ago.

Some 2,013 of the 11,616 internships in American hospitals are unfilled now. And only 1 per cent of those in higher educational institutions are medical students now, as against 2.4 per cent in 1920. The *Post-Dispatch* adds that the country's mental hospitals right now could use 3,700 more doctors.

The position of the American Medical Association, the doctors' organization, is that all that is needed is better distribution of the doctors we now have. Dr. Frank G. Dickinson, director of the A.M.A.'s bureau of medical economic research, contends that all that is necessary is to change the location of 361 doctors. Increased medical efficiency now means that fewer doctors are needed, Dr. Dickinson explains.

Talk of socialized medicine has slackened considerably since its peak about 10 years ago. But should this issue ever be actively revived by the politicians, the medical profession might be well advised to be sure it is not vulnerable on the score of an adequate supply of doctors for the growing population of this country. —*Wichita Eagle, April 28, 1958.*

Interprofessional Code Adopted

A code to govern relationships between physicians and attorneys was approved by the Kansas organizations representing the two professions at meetings held in May. The House of Delegates of the Kansas Medical Society, at a session in Kansas City on May 7, voiced its approval, and the Kansas Bar Association gave similar sanction at its meeting in Topeka several days later.

The code follows:

A. Preamble

Acknowledging that a substantial part of the practice of law and medicine is concerned with the problems of persons who are in need of the combined services of a lawyer and doctor; that the public interest and individual problems in these circumstances are best served only as a result of cooperative efforts of all concerned; that members of both the legal and medical professions share an obligation to the individual and to society, we, the members of the Bar Association of the State of Kansas and the Kansas Medical Society, do adopt and recommend the following declaration of principles as standards of conduct for attorneys and physicians, in interrelated practice.

B. Cooperation Between Professions

1. It is recognized that the welfare of the physician's patient and the attorney's client requires complete cooperation between the physician and the attorney in all cases involving their combined services.

2. A physician should not advise on the amount of damages a patient should seek to recover, nor advise against the employment of an attorney. An attorney should not ask a physician to form or express an estimate of money damages in behalf of a patient. A physician, however, should be prepared to formulate and express an opinion as to the extent of disability, if any.

3. It is recognized that an attorney is the advocate of his client, and does not and cannot properly represent both sides. It is also recognized that a patient's attending physician has an obligation to furnish the patient's attorney with proper medical facts.

C. Reports and Conferences

1. There should always be one or more conferences between the physician and the attorney relative to the common problems in a particular case. Arrangements for conferences should conserve the time of all parties and should be held at the mutual convenience of the physician and the attorney.

2. The physician should feel obligated to point out anything which he believes will be helpful in presenting the patient's case and any weaknesses in opposing medical theories or testimony.

3. It is the obligation of the attorney to arrange desirable conferences and to apprise the physician of the significance to the case of the particular medical testimony involved. The attorney should always invite and answer all questions of the physician concerning the evidence or its presentation, and should counsel the physician relative to cross examination.

4. A physician is entitled to the written authorization of the patient before he furnishes any attorney information concerning the history, physical condition, diagnosis, or prognosis of a patient, and the attorney should furnish such written authorization in advance of a request for a conference or medical report.

5. The patient's attorney is entitled to a prompt report from the attending or treating physician concerning the medical facts, including history, treatment, diagnosis, and prognosis. It is the obligation of the attorney to outline to the physician the matters he deems desirable to be covered in a medical report. A medical report shall be furnished as promptly as possible.

D. Medical Testimony

1. The physician recognizes that medical testimony is often absolutely essential.

2. The attorney should make arrangements to permit the doctor to testify at the most convenient time and without unavoidable delay in the courtroom.

3. It is recommended that a conference should always be held prior to testimony.

4. If an attorney plans to have a subpoena served on a physician he should notify him, preferably in advance, of service where circumstances permit. The physician recognizes that in many cases justice requires the service of a subpoena.

5. It is recognized that the administration of justice by the courts cannot depend upon the convenience of litigants, attorneys, or witnesses, including physicians called to testify.

Therefore:

(a) The attorney should notify the physician as far in advance as possible as to when he is to be needed to testify, and keep him notified and advised as to any changes in this respect as they arise.

(b) The physician should arrange to appear promptly when requested and do so unless prevented by circumstances which would constitute legal excuse.

6. The physician, while testifying should:

(a) At all times maintain the dignity of his profession.

(b) Answer questions as concisely and objectively as possible, using terminology, when permissible, which is understandable to a jury of laymen.

(c) If he does not know the answer to any question, so state and make no attempt to conjecture or theorize, or give answers not responsive to questions propounded or volunteer testimony.

(d) Under no circumstances permit any bias, prejudice, favoritism, or personal interest to influence his testimony.

7. The attorney, in examining or cross-examining a physician, should:

(a) Avoid questions which browbeat or badger the physician. The physician recognizes that it is the attorney's obligation to his client to be responsible for the trial of the case, and recognizes that cross-examination is a necessary part of the process of justice.

(b) Prepare and propound all questions to the witness in such form and manner as will permit clear understanding and a forthright answer.

(c) Cooperate with the physician by minimizing, as far as practicable, the time required for the physician to remain in court.

8. A physician treating a patient has a definite obligation to his patient to cooperate with the patient's attorney in presenting the medical facts in court. A physician called upon to examine a nonpatient has the right to decline making such an examination, but if he undertakes an examination for the purpose of reporting as an expert he may also expect to be called to testify as an expert witness.

E. Compensation for Services of Physician

1. A physician is entitled to reasonable compensation for professional services rendered. An attorney is prohibited by the ethics of his profession from making payment to the physician for medical reports or testimony, unless he has an agreement with the client for reimbursement. Such compensation must be paid by the patient or client. The physician is prohibited by the ethics of his profession from entering into any arrangement whereby the physician's charge is determined by the amount of financial recovery.

2. Notwithstanding that the attorney cannot assume an obligation to pay the fees of a physician, the attorney should ask authority of the patient to pay the physician direct for his services out of any money recovery obtained for the patient. It shall also be the obligation of the attorney to cooperate with the physician in making all proper arrangements for payment for his services.

3. When a physician testifies as an expert witness, his fees will be paid by the party calling him, in such amount as shall be agreed upon with the attorney representing such party.

4. Although the physician must set his own fees, it is suggested that a reasonable standard in many cases would be the equivalent of what the charge would be to a patient for the same amount of time and skill for professional services.

5. No attorney shall charge a fee to a physician for collection of an account for medical services, collected in personal injury litigation for the client-patient.

F. Joint Medical-Legal Committee

The Bar Association of the State of Kansas and the Kansas Medical Society shall each appoint six members from its profession who shall serve on a committee, two to serve for a term of one year, two for a term of two years, and two for a term of three years, and thereafter members shall be appointed for a term of three years, and said twelve individuals shall constitute the Joint Medical-Legal Committee. Such committee shall:

(a) Promulgate such suggestions as may be necessary to carry into effect the principles hereby adopted.

(b) Jointly attempt to mediate and arbitrate, in the first instance, any disputes arising between individual physicians and lawyers or between the two professions.

(c) Report annually to each of said organizations the work of the committee during the year and make such recommendations to said organizations as the committee deems desirable.

G. Enactment

This code shall become effective upon its adoption by the Bar Association of the State of Kansas and the Kansas Medical Society. It shall be subject to amendment by joint action of the two professions and shall guide both professions in their interprofessional relationships in a spirit of cooperation and understanding.

H. Approvals

1. This code has been approved by the Committee on Relations with the Medical Profession of the Bar Association of the State of Kansas, and is, by them, respectfully submitted.

/S/ Ford Harbaugh, Wellington, Chairman
William Tinker, Wichita
William E. Cunningham, Arkansas City
William B. Ryan, Norton
David H. Fisher, Topeka
Payne Ratner, Jr., Wichita
David Prager, Topeka
Lee Weeks, Kansas City
Blake A. Williamson, Kansas City
Vernon Stroberg, Newton
Clyde Hill, Yates Center
George B. Powers, Ex-Officio, Wichita

2. This code has been approved by the Committee on Relations with the Legal Profession of the Kansas Medical Society, and is, by them, respectfully submitted.

/S/ T. P. Butcher, M.D., Emporia, Chairman
Philip C. Nohe, M.D., Kansas City
C. R. Rombold, M.D., Wichita
R. E. Stowell, M.D., University of Kansas Medical Center, Kansas City
K. E. Voldeng, M.D., Wellington

Program on Accidents and Victims

A joint action program aimed at preventing accidents and improving care of accident victims was announced recently by the American College of Surgeons, the National Safety Council, and the American Association for the Surgery of Trauma.

As outlined by the representatives of the three participating organizations, the program will include:

1. Public education in accident prevention and handling of the injured.

2. Employment of joint state and local committees of the American College of Surgeons and National Safety Councils, together with other interested surgeons, safety engineers, and public officials to formulate safety plans for local communities.

3. Possible registration of unusual cases of injury.

4. Proposed investigations of emergency care of traffic injuries.

5. Model legislation to require adequate training in first aid and transportation of the injured for ambulance attendants, policemen and firemen.

6. Cooperation in the production and improvement of training materials and instructional aids dealing with problems in handling the injured.

Educational activities in the program will include meetings to be conducted in conjunction with national, regional, and local activities of the participating organizations. In addition, courses of instruction in first aid and transportation of the injured will be developed, and available materials will be reviewed for the purpose of emphasizing surgical aspects of the problem.

Another aspect of the program, registration of unusual cases of trauma, has yet to be worked out and approved but, as proposed, would be conducted primarily by the surgical organizations, it was reported. Physicians and hospitals would be asked to report unusual cases to the College, it was explained, and this information would then be evaluated and reported back to physicians by a special committee of the College and the American Association for the Surgery of Trauma.

Under the program, the annual inventory of traffic safety activities now conducted by the National Safety Council may be expanded to include data on the transportation of injured persons. With the help of surgeons, inventory questions relating to the transportation and emergency care of traffic injuries would be formulated and included in inventory procedures followed by state and city Council organizations. Data thus collected would be studied by surgeon members of the group and council recommendations would be based in part on the surgeon's recommendations.

Resources of the three organizations will be used in the effort to advise and assist civic groups to obtain passage of local ordinances requiring adequate training in handling of the injured by ambulance attendants, policemen and firemen, the joint statement said. Under a proposed model ordinance, ambulance attendants are required to have complete standard and advanced first aid training and additional training as recommended by local health departments, to carry cards indicating their qualifications and to be reexamined and certified annually for their fitness to serve.

New Radio Health Series

To give each community a monthly report on the newest and best in medicine, the American Medical Association introduces its new radio transcription series, "Health Magazine of the Air." Based on current items from *Today's Health* magazine, the new 15-minute series features H. V. Kaltenborn, veteran newscaster and radio-TV commentator, and W. W. Bauer, M.D., A.M.A.'s Bureau of Health Education director.

Seasonal health spot announcements will be presented on the reverse side of the platters. These spots will be given by popular movie personalities who contribute their time as a public service.

First shipment of the new transcriptions was made to approximately 400 radio stations throughout the country recently. The platters are released about the fifth day of each month from February through December, 1958, for immediate broadcast. Although the present selection of stations has been based on those previously airing A.M.A. radio transcriptions, local medical societies may contact the Bureau of Health Education for further information regarding additional outlets.

More than 22 per cent of 1956 U. S. highway deaths occurred on Saturdays.

BOOK REVIEWS

Drugs of Choice, 1958-1959. Edited by Walter Modell. Published by C. V. Mosby Company, St. Louis. 931 pages. Price $12.75.

The backbone of therapy is differential diagnosis, but once the diagnosis has been established where is the practitioner to get up-to-date information concerning the choice of drugs in these days of rapid therapeutic advances? Drugs appear on the market so rapidly that one hardly has time to become familiar with their names, let alone their pharmacologic properties and therapeutic potentialities. It is simply not possible for any one practitioner to learn enough about all of the new drugs to estimate their relative merits, and even the most recently published textbooks of pharmacology are of little help. Still, the proper choice of drugs remains a major factor in the patient's welfare.

Dr. Modell's book, the title of which indicates that it will be revised biannually, goes a long way toward providing the physician with information on modern drug therapy. Annual publications which give current information on therapeutic regimens are available, and these have proved to be of great value to physicians who are confronted with problems that are a little outside their usual experience. The present volume does not present regimens empirically, but rather discusses therapeutic problems and the drugs which bear on them from the point of view of the rationale of drug therapy and the factors involved in making an intelligent choice between available therapeutic agents.

The editor, with the help of 36 additional contributors, covers a wide range of therapeutic situations in 35 chapters. The introductory chapter, "Principles of the Choice of Drugs," should be required reading for all medical students and practitioners. Among the many topics covered are "The Choice of Drugs for the Relief of Pain," "The Choice of Drugs for Gastrointestinal Disturbances," "The Choice of an Antiarthritic Agent."

Chapters typically open with an interesting introductory section which delineates the therapeutic problem. Following this, various drugs are discussed from the point of view of their pharmacological properties which have a bearing on the therapeutic situation. After each drug has been given consideration the reader's attention is directed to the rational basis for the selection of drugs and the best method of employing them. Each chapter closes with selected references to the pertinent medical literature and a drug index enumerating the more commonly used official and proprietary preparations.

As one might expect in a multiple-author book, the chapters vary somewhat in quality, and some statements are rather too dogmatic. It is inevitable that this should be so, otherwise the reader would be involved in endless controversy and the book would reach impossible size. The book is well printed and bound, and the index is adequate.

There is much in this book which should be of interest to all physicians, material which is not readily available in the literature or in standard books on pharmacology and therapeutics. As stated before, the first chapter, "Principles of the Choice of Drugs," should be read and re-read by every physician, and it is alone worth the price of the book.—*J.D.R.*

The Neuroses and Their Treatment. By Edward Podolsky. Published by Philosophical Library, Inc., New York City. 555 pages. Price $10.

The articles in this book comprise an excellent selection but they vary greatly in one respect. Some, such as those by Metzger, Podolsky, and Meyer, as well as those on the use of drugs and short term psychotherapy, fit well with the purpose of the book as it is written for all physicians. Others, such as those by Ullman and Fischer, would seem to require some psychiatric training for their appreciation.

It would add to the book to give some identifying information about the authors, to give the specific references of the articles, and to give some basic references on the subject of the book.—*J.S.J.*

Care of the Cardiovascular Patient

Numerous pitfalls and problems in the rehabilitation of a patient who has had a heart attack or a breakdown of the blood vessels were outlined recently at a symposium sponsored by the Postgraduate Division of Stuyvesant Polyclinic and the American College of Angiology at the New York Academy of Medicine.

A group of clinicians, comprising the discussion panel, cautioned against a variety of hazardous pitfalls which may occur in the course of treating a cardiac patient. These pitfalls include: a common tendency of physicians to treat the disease rather than the patient; the failure to recognize the value of long-term anti-coagulant therapy; the failure to evaluate adequately the serious hazards resulting either from constipation or even in the absence of constipation from straining at stool; the failure to evaluate the psychologic stress imposed on the patient by business and inter-personal relationships; the failure to realize that a patient who has undergone cardiac surgery may suffer various side-effects, including constipation, as a result of anesthesia or pain-killing drugs; and the dangers arising from mistakes in diagnoses, as between cardiovascular or gastrointestinal conditions.

Model Law on Poison

After 15 months' study, the A.M.A. Committee on Toxicology has formulated a broad and encompassing model law for the precautionary labeling of hazardous substances in commercial, household, and industrial chemical products.

Speaking before a section of the New York Bar Association recently, Bernard E. Conley, Ph.D., secretary of the A.M.A. committee, said the proposed legislation is intended as a model for uniform laws to require declaration of hazardous ingredients and warning statements on the label and in the accompanying literature of chemical products used in the home and elsewhere.

The law is directed against those hazardous substances defined as toxic, irritating, sensitizing, corrosive, flammable, explosive, or radioactive under customary or reasonably anticipated conditions of handling and use. It would

—Require the labeling of all chemical products containing hazardous substances which are not now regulated.

—Require the same labeling standards to apply to chemicals for export as those for domestic consumption, thereby obviating the common complaint that less-than-standard products are sold to foreign customers.

—Prohibit re-use of food and drug containers bearing their original labels.

—Require identification and warnings for strongly sensitizing chemicals which cause allergic or inflammatory reactions in living tissue on contact.

Conley said a significant departure in drafting the new law was deletion of the word "poison" from the bill's provisions. This decision was reached, he said, after surveys showed a wide variation in existing legal limits for poison and a lack of agreement among scientists on a definition of the term.

New Exhibits for Public

The A.M.A. Bureau of Exhibits announces that a number of new exhibits are ready for showings by local medical societies at fairs, home shows, school and similar public gatherings this spring and summer.

You Can Reduce shows foods to fill up on and stay away from, gives a visitor an opportunity to check his weight on the scales; presents answers to pertinent questions on reducing; pictures 25 different foods and the number of calories in the servings shown.

Food and Nutrition Quackery was developed in cooperation with U. S. Food and Drug Administration, Post Office Department's fraud division, and National Better Business Bureau to point up the major false claims made in the promotion of food products and nutrition ideas; exposes house-to-house peddlers of "food supplements," nutrition and health lecturers and so-called "experts"; displays various reducing aids on a roulette wheel; features special "buyer beware" section explaining how public can recognize food quacks and their claims.

Breathing presents the anatomy of body's breathing system and air passages and location of lungs in the body. The viewer can observe how lungs expand and contract and the movement of the rib cage.

Glands shows the locations and functions of various glands in the body and presents three-dimensional models of glands.

Poisoning of Children demonstrates dangers of common household products and depicts those products that are leading causes of poisonings in children at home.

Health Appraisal of the School Child highlights principal health appraisal procedures, such as teacher observation, screening procedures, dental and medical examinations, and the follow-through.

Statistics on A.M.A. Meeting

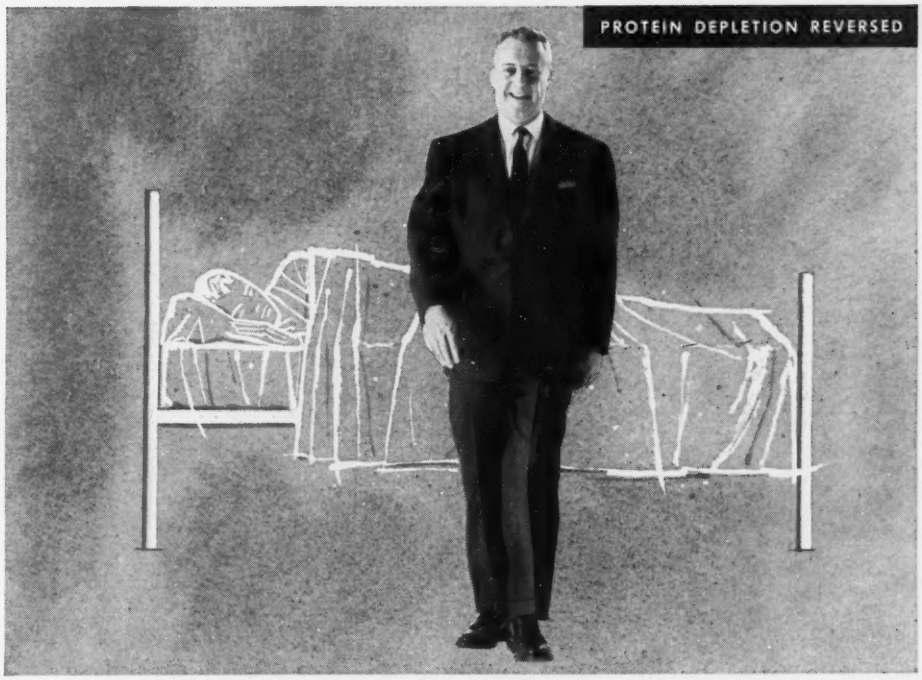
A study made by the New York Convention and Visitors Bureau after the 1957 meeting of the American Medical Association showed that 20,000 persons attended from out of town. Questionnaires were sent to 500 physicians after they had returned to their homes, and replies covered 213 persons. The average stay was from 5 to 10 days, and the average daily expenditure per person was $35.27. The Bureau estimated total expenditures for all those in New York for the convention as $3,603,130.

CLASSIFIED ADVERTISEMENTS

EXCELLENT OPPORTUNITY in group practice for a young general practitioner to replace retiring partner in growing Nebraska town of 15,000. Good salary to start, partnership as quickly as desired. Write the JOURNAL 9-58.

FOR RENT—Kansas City Neighborhood office. Four consultation rooms, small lab, share reception room with dentist. Excellent location in middle class neighborhood. Write the JOURNAL 8-58.

Vacancies exist at this hospital for Chief, Surgical Service (board certified or eligible required), ward physicians on medical, surgical, and psychiatric services after July 1, 1958. All applicants must be citizens of the U.S., having a license to practice medicine in one of the states, must be under 55 years of age and be in good physical condition. Liberal annual, sick, insurance and retirement benefits. Salary range commensurate with qualifications up to $13,760. This is a modern 815-bed NP hospital with medical, surgical, TB-NP and neurological services, ideally located in the suburbs just 12 miles from downtown St. Louis. Write Manager, VA Hospital, Jefferson Barracks 23, Missouri.



the clinical results are **positive** when

NILEVAR® restores positive nitrogen balance

The anabolic effects of Nilevar are quickly manifest both to the patient and to the attending physician.

When loss of nitrogen delays postsurgical recovery or stalls convalescence after acute illness and in severe burns and trauma, Nilevar has been found to effect these responses:

- **Appetite improves**
- **Weight increases**
- **The patient feels better**
- **The patient recovers faster**

Similarly Nilevar helps correct the "protein catabolic state" associated with prolonged bed rest in carcinomatosis, tuberculosis, anorexia nervosa and other chronic wasting diseases.

Nilevar is unique among anabolic steroids in that androgenic side action is minimal or absent in appropriate dosage.

Nilevar (brand of norethandrolone) is supplied as tablets of 10 mg. and ampuls (1 cc.) of 25 mg. The dosage of both forms is from 10 to 50 mg. daily.

SEARLE

Research in the Service of Medicine.
G. D. SEARLE & CO., CHICAGO 80, ILLINOIS

INDICATED:

NEO-MAGNACORT®

neomycin and hydrocortamate

TOPICAL OINTMENT

The first water-soluble dermatologic corticoid plus neomycin, for consistently outstanding control of contact dermatitis and other inflammatory dermatoses complicated by or threatened by infection.*

In 1/2-oz. and 1/6-oz. tubes, 0.5% neomycin sulfate and 0.5% hydrocortamate hydrochloride (hydrocortisone diethylaminoacetate hydrochloride) — MAGNACORT.

also available: MAGNACORT® Topical Ointment — in 1/2-oz. and 1/6-oz. tubes, 0.5% hydrocortamate hydrochloride (hydrocortisone diethylaminoacetate hydrochloride).

*Howell, C. M., Jr.: Am. Pract. & Digest Treat. 8:1928, 1957.

Pfizer

PFIZER LABORATORIES DIVISION, CHAS. PFIZER & CO., INC., BROOKLYN 6, NEW YORK

long day ahead
morning sun glare – eyes irritated
can't read – coach smoky
leave the work – let's lunch
back to work – eyes worse
take afternoon off – see doctor
pick up VISINE – home again
let's try the drops
nice dinner – read the paper
eyes comfortable – good TV play
use VISINE – bed 11:30
long day behind
turned out well **see the difference**

new VISINE* EYE DROPS

BRAND OF TETRAHYDROZOLINE HYDROCHLORIDE

"an excellent ophthalmic decongestant . . ."[1]

almost immediate relief of hyperemia, soreness, itching, burning, tearing — no rebound vasodilatation, mydriasis, photophobia or systemic effects. / *supplied: in 1/2 oz. bottles, 0.05% tetrahydrozoline hydrochloride in a solution containing sodium chloride, boric acid, sodium borate; with sterile eye dropper.*

*Trademark

1. Grossmann, E. E., and Lehman, R. H.: Am. J. Ophth. 42:121, 1956.

Pfizer PFIZER LABORATORIES *Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York*

WHY SENSITIZE

in topical and ophthalmic infections

USE 'POLYSPORIN'®

brand

POLYMYXIN B—BACITRACIN OINTMENT

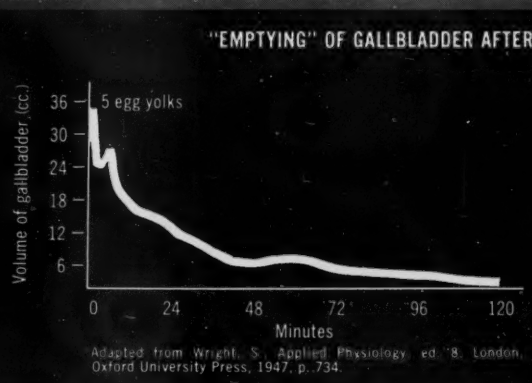
to insure broad-spectrum therapy with minimum allergenicity

For topical use: in ½ oz. and 1 oz. tubes.
For ophthalmic use: in ⅛ oz. tubes.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

AN AMES CLINIQUICK

CLINICAL BRIEFS FOR MODERN PRACTICE



Adapted from Wright, S.: Applied Physiology, ed. 8, London, Oxford University Press, 1947, p. 734.

What's wrong with the term "emptying of the gallbladder"?

The gallbladder discharges bile by fractional evacuation. It is not emptied completely at any one time even following a fatty meal.

Source—Lichtman, S. S.: Diseases of the Liver, Gallbladder and Bile Ducts, ed. 3, Philadelphia, Lea & Febiger, 1953, vol. 2, p. 1177.

routine physiologic support for "sluggish" older patients

DECHOLIN® one tablet t.i.d.
therapeutic bile

increases bile flow and gallbladder function—combats bile stasis and concentration... helps thin gallbladder contents.

corrects constipation without catharsis—prevents colonic dehydration and hard stools... provides effective physiologic stimulant.

DECHOLIN tablets (dehydrocholic acid, AMES) 3¾ gr. Bottles of 100 and 500.

AMES COMPANY, INC • ELKHART, INDIANA
Ames Company of Canada, Ltd., Toronto

premenstrual

'DIURIL'

(CHLOROTHIAZIDE)

FORD, R. V., Rochelle, J.B.III, Handley, C. A., Moyer, J. H. and Spurr, C. L.: J.A.M.A. **166**:129, Jan. 11, 1958.

". . . in premenstrual edema, convenience of therapy points to the selection of chlorothiazide, since it is both potent and free from adverse electrolyte actions." In the vast majority of patients, 'DIURIL' relieves or prevents the fluid "build-up" of the premenstrual syndrome. The onset of relief often occurs within two hours following convenient, oral, once-a-day dosage. 'DIURIL' is well tolerated, does not interfere with hormonal balance and is continuously effective—even on continued daily administration.

DOSAGE: one 500 mg. tablet 'DIURIL' daily—beginning the first morning of symptoms and continuing until after onset of menses. For optimal therapy, dosage schedule should be adjusted to meet the needs of the individual patient.

SUPPLIED: 250 mg. and 500 mg. scored tablets 'DIURIL' (chlorothiazide); bottles of 100 and 1,000.

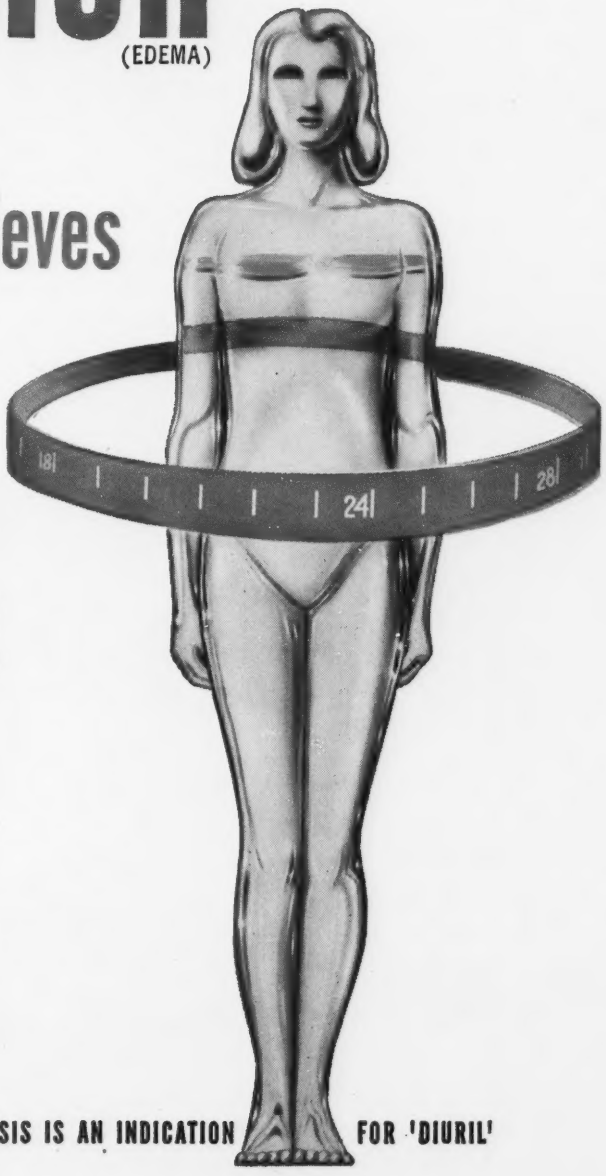
DIURIL is a trade-mark of Merck & Co., Inc.

MERCK SHARP & DOHME Division of MERCK & CO., INC., Philadelphia 1, Pa. MSD

tension

(EDEMA)

quickly relieves
Distress
Distention
Discomfort



ANY INDICATION FOR DIURESIS IS AN INDICATION FOR 'DIURIL'

BONADOXIN®

stops morning sickness but....

*relief with BONADOXIN in 1534 patients**

good or excellent	87.8%
fair or moderate	8.6%
poor or none	3.6%

**Summary of published clinical studies.*

t.....**BONADOXIN®**

doesn't stop the patient

"... tolerance was excellent, with no drowsiness resulting."[1]

"No side reactions were observed. . . ."[2]

Each pink-and-blue tablet contains:

Pyridoxine HCl . . . . 50 mg.
Meclizine HCl . . . . . 25 mg.

Bottles of 25 and 100.

Now also available as
BONADOXIN DROPS

1. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. *6*:580 (April) 1955.
2. Codling, J. W., and Lowden, R. J.: Northwest Med. *57*:331 (March) 1958.

New York 17, New York
Division, Chas. Pfizer & Co., Inc.

when eating moves outdoors . . .

CREMOSUXIDINE®

SULFASUXIDINE® SUSPENSION WITH KAOLIN AND PECTIN

CONTROLS "SUMMER COMPLAINT"

For people at work or on vacation, "summer complaint" is an annoying hazard of warm weather. Changes in routine or in eating or drinking habits can cause diarrhea and ruin summer days.

CREMOSUXIDINE gives prompt control of seasonal diarrhea by providing antibacterial and antidiarrheal benefit. It detoxifies intestinal irritants and soothes inflamed mucosa.

Chocolate-mint flavored CREMOSUXIDINE is so pleasant to take too!

CREMOSUXIDINE and SULFASUXIDINE are trade-marks of Merck & Co., Inc.

MSD MERCK SHARP & DOHME
DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

East meets WEST

in Theominal® R.S.

(Theominal with Rauwolfia serpentina)

FOR ESSENTIAL HYPERTENSION

RAUWOLFIA SERPENTINA—used medicinally for centuries in India and Malaya

\+ **THEOMINAL**—prescribed by American physicians for several decades.

= **THEOMINAL R. S.:** *Each tablet contains 320 mg. theobromine, 10 mg. Luminal,® 1.5 mg. purified Rauwolfia serpentina alkaloids (alseroxylon).*

ADVANTAGES:

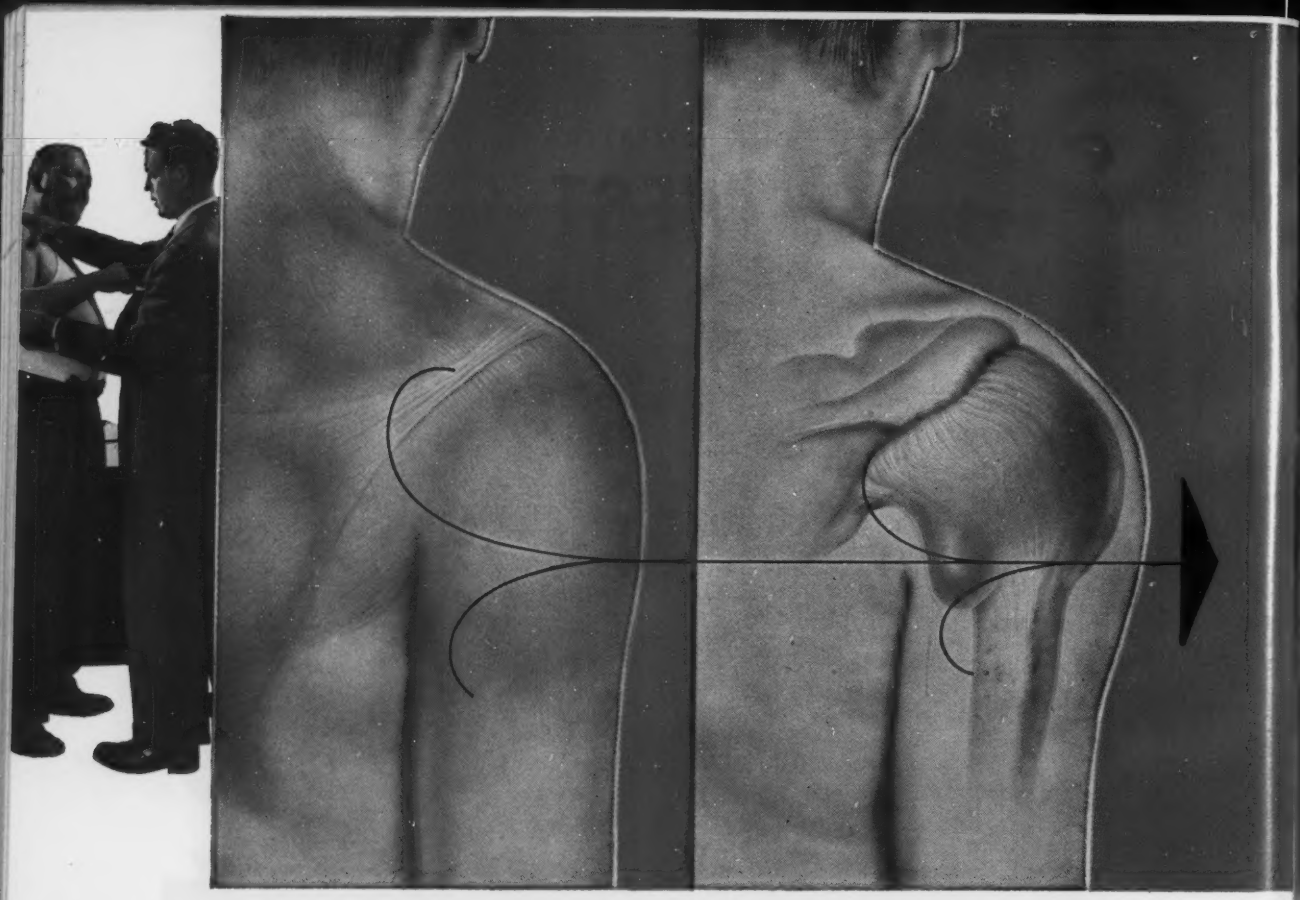
1. **Gradual but sustained reduction of blood pressure**
2. **Diminution of emotional tension, anxiety and insomnia**
3. **Alleviation of congestive headache, vertigo, dyspnea**
4. **Improvement in orientation and social behavior in the aged**

Dose: 1 tablet two or three times daily.

Supplied: Bottles of 100 and 500 tablets.

Winthrop LABORATORIES
NEW YORK 18, N. Y.

Theominal and Luminal (brand of phenobarbital), trademarks reg. U. S. Pat. Off.



"Rheumatoid arthritis is a constitutional disease with symptoms affecting chiefly joints and muscles."[1] "Pain in the affected joint is accompanied by splinting of the adjacent muscles, with resultant 'muscle spasm.' "[2]

rheumatoid arthritis involves both joints and muscles only

MEPROLONE is the only anti-rheumatic-antiarthritic designed to relieve simultaneously (a) muscle spasm (b) joint-muscle inflammation (c) physical distress . . . and may thereby help prevent deformity and disability in more arthritic patients to a greater degree than ever before.

SUPPLIED: Multiple Compressed Tablets in bottles of 100, in three formulas:
MEPROLONE-5—5.0 mg. prednisolone, 400 mg. meprobamate and 200 mg. dried aluminum hydroxide gel.
MEPROLONE-2—2.0 mg. prednisolone, 200 mg. meprobamate and 200 mg. dried aluminum hydroxide gel.
MEPROLONE-1—supplies 1.0 mg. prednisolone in the same formula as MEPROLONE-2.

1. Comroe's Arthritis: Hollander, J. L., p. 149 (Fifth Edition, Lea & Febiger, Philadelphia, Pa. 1953).
2. Merck Manual: Lyght, C. E., p. 1102 (Ninth Edition, Merck & Co., Inc., Rahway, N. J. 1956).

MEPROLONE®

THE FIRST MEPROBAMATE PREDNISOLONE THERAPY

meprobamate to relieve muscle spasm
prednisolone to suppress inflammation

relieves both muscle spasm and joint inflammation

MERCK SHARP & DOHME Philadelphia 1, Pa.
Division of MERCK & CO., Inc.

in each of these indications for a tranquilizer...

SR is a cardiac patient. His doctor put him on ATARAX because (+) it is an anti-arrhythmic and non-hypotensive tranquilizer.

Other tranquilizers added to PN's g. i. discomfort (he has ulcers). But now his doctor has him on ATARAX because (+) it lowers gastric secretion while it tranquilizes.

Asthmatic JL used to have frequent tantrums followed by acute bronchospasm. Her family doctor tranquilized her with ATARAX because (+) it is safe, even for children.

Senile anxiety and persecution complex dogged Mrs. K. until her doctor prescribed ATARAX Syrup. (+) It tastes good, and it's a perfect vehicle for Mrs. K's tonic.

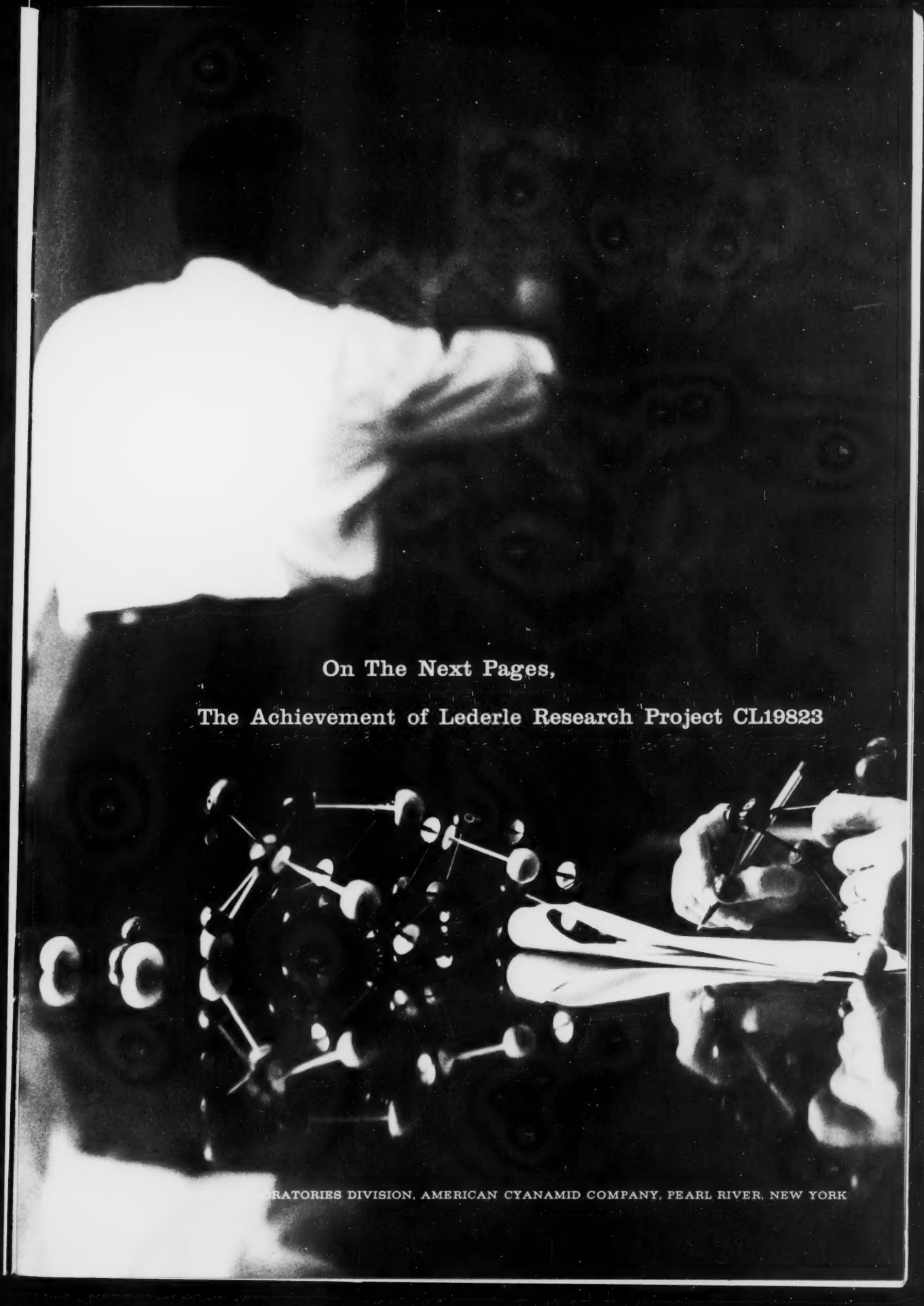
Dosage: Children, 1-2 *10 mg.* tablets or 1-2 tsp. Syrup t.i.d. Adults, one *25 mg.* tablet or 1 tbsp. Syrup q.i.d.
Supplied: 10, 25 and 100 mg. tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

...ATARAX® gives you an extra benefit

(hydroxyzine pamoate)

PFIZER Rx

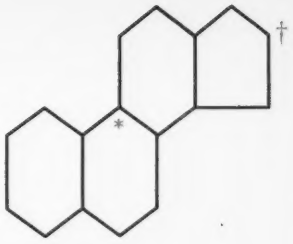
New York 17, New York
Division, Chas. Pfizer & Co., Inc.


On The Next Pages,
The Achievement of Lederle Research Project CL19823
RATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

Lederle announces a major drug with great new promise

Arist

a new corticosteroid created to minimize
major deterrents to all previous steroid therapy



ocort®

Triamcinolone LEDERLE
9 alpha-fluoro-16 alpha-hydroxyprednisolone
* †

Lederle

- **a new high** in anti-inflammatory effects with lower dosage (averages 1/3 less than prednisone)
- **a new low** in the collateral hormonal effects associated with all previous corticosteroids
  - No sodium or water retention
  - No potassium loss
  - No interference with psychic equilibrium
  - Low incidence of peptic ulcer and osteoporosis

Biological Effects of Aristocort

with particular emphasis on:

Kidney function

Animal studies on ARISTOCORT[1] have not demonstrated any interference with creatinine or urea clearance. Autopsy surveys of organs of animals on prolonged study of this medication have shown no renal damage.

Sodium and water

ARISTOCORT produced an increase of 230 per cent of water diuresis and 145 per cent sodium excretion when compared to control animals.[1] Metabolic balance studies in man revealed an average negative sodium balance of 0.8 Gm. per day throughout a 12-day period on a dosage of 30 mg. per day.[2] Additional balance studies showed actual sodium loss when ARISTOCORT was given in doses of 12 mg. daily.[3] Other investigators observed significant losses of sodium and water during balance studies and that those patients with edema from some older corticosteroids lost it when transferred to ARISTOCORT.[4,5] In two studies of various rheumatic disorders (194 cases) on prolonged treatment, sodium and water retention was not observed in a single case.[6,7]

Potassium and chlorides

There was no active excretion of potassium or chloride ions in animals given maintenance doses of ARISTOCORT 25 times that found to be clinically effective.[1] Potassium balance studies in humans[2,3] revealed that negative balance did not occur even with doses somewhat higher than those employed for prolonged therapy in rheumatoid arthritis. Hypokalemia, hyperkalemia or hypochloremia did not occur, when tested, in 194 patients with rheumatoid arthritis treated for up to ten and one-half months.[6,7]

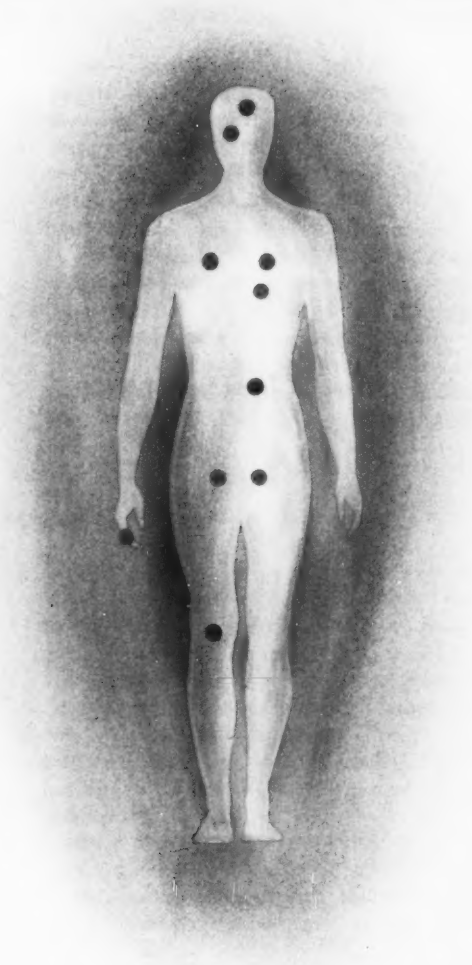
Calcium and phosphorus

Phosphate excretion in animals[1] was not changed from normal even with amounts 25 times greater (by body weight) than those known to be clinically effective. Human metabolic balance studies[3] demonstrated that no change in calcium excretion occurred on dosages usually employed clinically when the compound is administered for its anti-inflammatory effect. Even at a dosage level twice this, slight negative balance appeared only during a short period.

Protein and nitrogen balance

Positive nitrogen balance was maintained during a human metabolic study on maintenance dosage of 12 mg. per day.[3] At dosages two to three times normal levels, positive balance was maintained except for occasional short periods in metabolic studies of several weeks' duration.[2,3]

There was always a tendency for normalization of the A/G ratio and elevation of blood albumin when ARISTOCORT was used in treating the nephrotic syndrome.[8]



Liver glycogen deposition and inflammatory processes

An intimate correlation exists between the ability of a corticosteroid to cause deposition of glycogen in the liver and its capacity to ameliorate inflammatory processes.

In animal liver glycogen studies, relative potencies of ARISTOCORT over cortisone of up to 40 to 1 have been observed. Compared to ARISTOCORT, five to 12 times the amount of prednisone is required to produce varying but equal amounts of glycogen deposition in the liver.[1]

Most patients show normal fasting blood sugars on ARISTOCORT. Diabetic patients on ARISTOCORT may require increased insulin dosage, and occasional latent diabetics may develop the overt disease.

Anti-inflammatory potency of ARISTOCORT was determined by both the asbestos pellet[1] and cottonball[9] tests. It was found to be nine to 10 times more effective than hydrocortisone in this respect.

Gastric acidity and pepsin

The precise mode of ulcerogenesis during treatment with corticosteroids is not known. There is much experimental evidence for believing this may be related to the tendency of these agents to increase gastric pepsin and acidity—and this cannot be abolished by vagotomy, anticholinergic drugs or gastric antral resection.[10] Clinical studies[11] of patients on ARISTOCORT revealed that uropepsin excretion is not elevated. Further, their basal acidity and gastric response to histamine stimulation were within normal limits.

Central nervous system

The tendency of corticosteroids to produce euphoria, nervousness, mental instability, occasional convulsions and psychosis is well known.[12] The mechanism underlying these disturbances is not well understood.

ARISTOCORT, on the contrary, does not produce a false sense of well being, insomnia or tension except in rare instances. In the treatment of 824 patients, for up to one year, not a single case of psychosis has been produced. In general, it appears to maintain psychic equilibrium without producing cerebral stimulation or depression.

Bibliography

1. Experimental Therapeutics Section, Lederle Laboratories. To be published. 2. Bunim, J. J., Whedon, G., and Black, R. L.: Personal Communication. 3. Hellman, L., Zumoff, B., Schwartz, M. K., Gallagher, T. F., Berntsen, C. A., and Freyberg, R. H.: Antirheumatic and Metabolic Effects of a New Synthetic Steroid, paper quoted in Bull. Rheumat. Dis. 7: 130, 1957. 4. Spies, T. D.: South. M. J. 50: 216, (Feb.) 1957. 5. Freyberg, R. H.: Personal Communication. 6. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at the International Congress on Rheumatic Diseases, Toronto, June 25, 1957. 7. Hartung, E. F.: To be published. 8. Hellman, L., Zumoff, B., Kretschmer, N. and Kramer, B.: Personal Communication. 9. Dorfman, R. I., and Dorfman, A. S.: Personal Communication. 10. Gray, S. J., Ramsey, C. G., Villarreal, R., and Krakauer, L. J.: Edited by H. Selye and G. Heuser in: Fifth Annual Report on Stress, 1955-56. M.D. Publications, Inc., New York, 1956, p. 138. 11. Dubois, E. L.: Personal Communication. 12. Good, R. A., Vernier, R. L., and Smith, R. T.: Pediatrics *19*:95, 1957.

Lederle

The Promise of Aristocort in Reduction of Side Effects

It is axiomatic to affirm that the undesirable collateral hormone effects of corticosteroids increase in frequency and severity the higher the dosage and the longer used.

It has also become well recognized that the most serious of the major side effects from long-term corticosteroid treatment are peptic ulcers, osteoporosis with fracture, drug psychosis and euphoria, and sodium and water retention leading often to general tissue edema and hypertension.

It is significant that of the close to 400 patients on the lower dosage schedules found effective in bronchial asthma and dermatologic conditions, only 1 case of peptic ulceration has developed. No other of the above side effects have been observed even though ARISTOCORT was administered continuously to them for periods as long as one year.

The treatment of rheumatoid arthritis with steroids appears to result in the highest incidence of side effects. For this reason, the side effects associated with ARISTOCORT therapy in 292 patients with rheumatoid arthritis are reported below.

Peptic Ulcer

The occurrence of peptic ulcer in 292 patients with rheumatoid arthritis treated continuously for up to one year with ARISTOCORT is approximately 1 per cent (2 of the 3 occurred in patients transferred from prednisone). In the remaining 532 cases recently analyzed, only one ulcer has been discovered in a patient who apparently had no ulcer when he was changed from another steroid.

Osteoporosis and Compression Fractures

The occurrence of osteoporosis with compression fracture in 292 patients with rheumatoid arthritis treated continuously for up to one year with ARISTOCORT is 0.33 per cent (1 case[1]). Although these results are encouraging, determination of the true incidence of osteoporosis will have to await the passage of more time.

Euphoria and Psychosis

The euphoria so commonly produced by all previous corticosteroids has seemed a most desirable attribute to patients. In penalty, however, they have often later to pay for this by mental disturbances, varying from mild and transitory to severe depression and psychosis,[2] and toxic syndromes producing even convulsions and death.[3]

Since the onset of these complications is not directly related to duration of steroid administration,[4] the fact that not one case of psychosis occurred in 824 patients treated with ARISTOCORT, is most encouraging.

Sodium Retention—Hypertension—Potassium Depletion

When 17 patients were changed from prednisone to ARISTOCORT, 11 rapidly lost weight although only one had had visible edema.[5] Sodium and water retention, hypokalemia or hyperkalemia and steroid hypertension did not appear in 194 rheumatoid arthritis patients treated with ARISTOCORT.[1,6]

The interrelation between blood and body sodium, and steroid hypertension has long been generally appreciated.[7,8] Except in rare instances, or when unusually high doses are used (e.g., leukemia), the problem of edema and hypertension caused by sodium and water retention, has been eliminated with ARISTOCORT.

Minor Side Effects

Collateral hormonal effects of less serious consequence occurred with approximately the same frequency as with the older corticosteroids.[1] These include erythema, easy bruising, acne, hypertrichosis, hot flashes and vertigo. Several investigators have reported symptoms not previously described as occurring with corticosteroid therapy, e.g., headaches, lightheadedness, tiredness, sleepiness and occasional weakness.

Moon facies and buffalo humping have been seen in some patients on ARISTOCORT. However, ARISTOCORT therapy, in many instances, resulted in diminution of "Cushingoid" signs induced by prior therapy. Where this occurs, it may be related to reduced dosage on which patients can be maintained.

Reduction of dosage by one-third to one-half

In a double-blind study of comparative dosage in patients with rheumatoid arthritis,[9] 70 per cent of the cases were as well controlled on a dose of ARISTOCORT one-half that of prednisone. A general recommendation can be made that ARISTOCORT be used in doses two-thirds that of prednisone or prednisolone in the treatment of rheumatoid arthritis. There are individual variations, however, and each patient should be carefully titrated to produce the desired amount of disease suppression.

Comparative studies, of patients changed from prednisone, indicate reduced dosage of ARISTOCORT in bronchial asthma and allergic rhinitis (33 per cent),[5] and in inflammatory and allergic skin diseases (33-50 per cent).[10,11]

General Precautions and Contraindications

Administration of ARISTOCORT has resulted in lower incidence of major serious side effects, and in fewer of the troublesome minor side effects known to occur with all previously available corticosteroids. However, since it is a highly potent glucocorticoid, with profound metabolic effects, all traditional contraindications to corticosteroid therapy should be observed.

No precautions are necessary in regard to dietary restriction of sodium or supplementation with potassium.

Since ARISTOCORT has less of the traditional side effects, the appearance of sodium and water retention, potassium depletion, or steroid hypertension cannot be used as signs of overdosage. As a rule patients will lose some weight during the first few days of treatment as a result of urinary output, but then the weight levels off.

Patients do not develop the abnormally voracious appetite common to previous corticosteroid administration. In fact, some patients experienced anorexia, and it is advisable to inform patients of this and to recommend they maintain a normal intake of food, with emphasis on liberal protein intake.

While precipitation of diabetes, peptic ulcer, osteoporosis, and psychosis can be expected to appear rarely from ARISTOCORT, they must be searched for periodically in patients on long-term steroid therapy.

Traditional precautions should be observed in gradually discontinuing therapy, in meeting the increased stress of operation, injury and shock, and in the development of intercurrent infection.

There is one overriding principle to be observed in the treatment of any disease with ARISTOCORT. *The amount of the drug used should be carefully titrated to find the smallest possible dose which will suppress symptoms.*

Bibliography

1. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at International Congress on Rheumatic Diseases, Toronto, June 25, 1957. 2. Bunim, J. J.: Bull. New York Acad. Med. 33:461, 1957. 3. Good, R. A., Vernier, R. L., and Smith, R. T.: Pediatrics 19:95, 1957. 4. Goolker, P., and Schein, J.: Psychosom. Med. 15:589, 1953. 5. Sherwood, H., and Cooke, R. A.: J. Allergy 28:97, 1957. 6. Hartung, E. F.: Personal Communication. 7. Schroeder, H. A.: J.A.M.A. 162:1362, 1956. 8. Thorn, G. W., Laidlaw, J. C., and Goldfein, A.: Ciba Found. Coll. on Endocrinology, J. & A. Churchill, Ltd., London, 8:343, 1955. 9. Freeman, H., Bachrach, S., McGilpin, H. H., and Dorfman, R. I.: Personal Communication. 10. Rein, C. R., Fleischmajer, R., and Rosenthal, A.: J.A.M.A. 165:1821, 1957. 11. Shelley, W. B., and Pillsbury, D. M.: Personal Communication.

The Promise of Aristocort in Rheumatoid Arthritis

ARISTOCORT *therapy has been intensely and extensively studied for periods up to one year on 292 patients with rheumatoid arthritis.*

Significant is the fact that most patients were *severe* arthritics, transferred to ARISTOCORT from other corticosteroids because satisfactory remission had not been attained, or because the seriousness of collateral hormonal effects had made discontinuance desirable.

Results of treatment

Freyberg and associates[1] treated 89 patients with rheumatoid arthritis (A. R. A. Class II or III and Stage II or III). Of these, 51 were on ARISTOCORT therapy from three to over 10 months. In all but a few patients, satisfactory suppression of rheumatoid activity was obtained with 10 mg. per day. Thirteen were controlled on 6 mg. or less a day, and for periods to 180 days. The investigators reported therapeutic effect in most cases to be A. R. A. Grade II (impressive) and that marked reduction in sedimentation rates occurred.

Another interesting observation in this study: Of the 89 patients treated, 12 had active ulcers, developed from prior steroid therapy. *In six patients, the ulcers healed while on doses of* ARISTOCORT *sufficient to control arthritic symptoms.*

Hartung[2] treated 67 cases of rheumatoid arthritis for up to 10 months. He found the optimum maintenance dose to be 11 mg. per day. Nineteen of these patients were treated for six to 10 months with an "excellent" therapeutic response.

Dosage and course of therapy

The initial dosage range recommended is 14 to 20 mg. per day—depending on the severity and acuteness of signs and symptoms. Dosage is divided into four parts and given with meals and at bedtime. Anti-rheumatic effect may be evident as early as eight hours, and full response often obtained within 24 hours. This dosage schedule should be continued for two or three days, or until all acute manifestations of the disease have subsided, whichever is later.

The maintenance level is arrived at by reduction of the total daily dosage in decrements of 2 mg. every three days. The range of maintenance therapy has been found to be from 2 mg. to 15 mg. per day—with only a very occasional patient requiring as much as 20 mg. per day. Patients requiring more than this should not be long continued on steroid therapy.

The aim of corticosteroid therapy in rheumatoid arthritis is to suppress the disease only to the stage which will enable the patient to carry out the required activities of normal living or to obtain reasonable comfort. The maintenance dose of ARISTOCORT to achieve this end is arrived at while making full use of all other established methods of controlling the disease.

ARISTOCORT is available in 2 mg. scored tablets (pink); 4 mg. scored tablets (white). Bottles of 30.

Bibliography

1. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at International Congress on Rheumatic Diseases, Toronto, June 25, 1957. 2. Hartung, E. F.: Paper presented at Florida Academy of General Practice, St. Petersburg, Florida, Nov. 2, 1957.

Lederle

The Promise of Aristocort in Respiratory Allergies

About 200 patients with respiratory allergies have been treated with ARISTOCORT *for continuous periods up to eight months.*

Results of treatment

Sherwood and Cooke[1,2] gave ARISTOCORT to 42 patients with bronchial asthma and allergic rhinitis. Average dose needed to control the asthmatic group was approximately 6 mg. per day (range, 2 to 14 mg.). Results, which were called "good to excellent" in all but four, were achieved on one-third less than similarly effective doses of prednisone or prednisolone.

The investigators noted other major improvements in ARISTOCORT therapy over the older steroids. There was no increase in blood pressure in any patient: *on the contrary, in 12 patients, there was reduction of pressure when they were transferred to* ARISTOCORT. One patient had required auxiliary antihypertensive drug therapy; over a nine-week period on ARISTOCORT, the pressure gradually fell from 206/100 to 136/79. In another case, the pressure slowly dropped from 205/105 to 154/86.

The number of cases in which these investigators tried ARISTOCORT in allergic rhinitis was not large enough to provide significant averages. However, the range of effective therapy was from 2 to 6 mg. per day. These strikingly low daily doses resulted in control of all signs and symptoms.

Schwartz[3] treated 30 patients with chronic, intractable bronchial asthma. At an average daily dose of 7 mg., he reported "good to excellent" results in all but one. Spies,[4] Barach[5] and Segal,[6] reported similar results at average daily maintenance doses of 4 to 10 mg. of ARISTOCORT.

Dosage and course of therapy

The initial dosage range recommended is 8 to 14 mg. of ARISTOCORT daily. Although a rare, very severe case may require more than this on the first day of therapy, these dosages will usually result in prompt alleviation of dyspnea, wheezing and cyanosis. Patients are soon able to carry out a normal span of daily activity.

The maintenance level is arrived at by reduction of the total daily dose every three days in decrements of 2 mg.; in the over-all series, the average daily dose for bronchial asthma is approximately 8 to 10 mg. and for allergic rhinitis, 2 to 6 mg. per day. All total daily doses should be divided into four parts and given with meals and at bedtime. As in every condition where corticosteroids are employed, each patient's treatment should be individualized and the maintenance arrived at by careful titration against signs and symptoms of disease.

Patients with chronic bronchial asthma may require steroid therapy for several months. And since asthma may be associated with cardiac disease, especially in the older age groups, ARISTOCORT is particularly useful because of its ability to cause excretion of sodium and water.

ARISTOCORT is available in 2 mg. scored tablets (pink); 4 mg. scored tablets (white). Bottles of 30.

Bibliography

1. Sherwood, H., and Cooke, R. A.: J. Allergy 28:97, 1957. 2. Sherwood, H., and Cooke, R. A.: Personal Communication. 3. Schwartz, E.: Personal Communication. 4. Spies, T. D.: Personal Communication. 5. Barach, A. L.: Personal Communication. 6. Segal, M. S.: Personal Communication.

Lederle

The Promise of Aristocort

in Nephrotic Syndrome

◊ *Fourteen patients with the nephrotic syndrome have been treated with* ARISTOCORT *for continuous periods of up to six weeks.*

Results of treatment

Hellman and associates[1,2] noted that ARISTOCORT, because of its favorable electrolyte effects, may well be the most desirable steroid to date in treatment of the nephrotic syndrome. However, thus far its use has been reported in only 14 children, of whom 8 had a complete diuresis and disappearance of all abnormal chemical findings. Four of the patients had diuresis, but continued to show some abnormal chemical findings, while two patients with signs of chronic renal disease failed to respond.

Dosage and course of therapy

In order to produce maximal response, 20 mg. should be given daily until diuresis occurs. The dose should then be decreased gradually and maintained around 10 mg. a day. After the patient has been in remission for some time, it may be advisable to diminish the dose gradually and discontinue ARISTOCORT.

in Pulmonary Emphysema and Fibrosis

◊ *Eleven patients with pulmonary emphysema and/or fibrosis were treated with* ARISTOCORT *for continuous periods of over two months.*

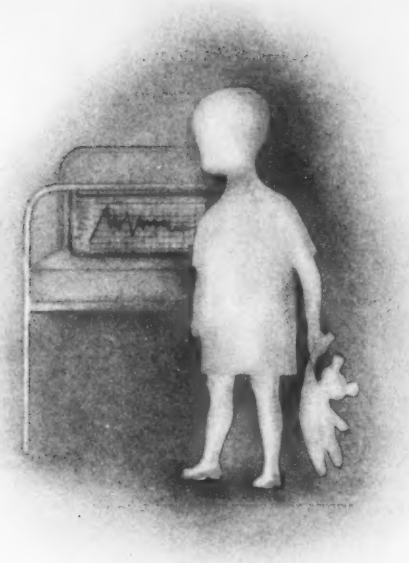
Results of treatment

Only small series of cases observed by Barach,[3] Segal,[4] and Cooke,[5] are available. Barach treated patients who were not adequately controlled by prednisone, with the same dose of ARISTOCORT with significant improvement.

Dosage and course of therapy

The initial suppressive dose range recommended is 10-14 mg. daily. Frequently, there is a prompt decrease in cyanosis and dyspnea, with increase in vital capacity.

The average maintenance dose level was 8 mg. a day. If it is desired to maintain a patient on continuous therapy for some months, dosages as low as 2 mg. a day have been successful. All decreases in dosage should be gradual and at a rate of 2 mg. decrements in total daily amount, every two to four days. The daily dosage is divided into four parts and given with meals and at bedtime.



in Neoplastic Diseases

◊ *Forty-four children and adults have been given* ARISTOCORT *for palliative treatment of acute leukemia, chronic lymphatic leukemia, lymphosarcoma, lympholeukosarcoma and Hodgkin's disease.*

Results of treatment

Farber[6] has treated 22 children with acute leukemia for an average of three weeks. Of the 17 observed long enough to judge the efficacy of the medication, he rated five as excellent, three as good, two as fair and seven as poor responses.

Hellman and associates[7] gave ARISTOCORT to a group of patients with the various lymphomas in doses of 40 to 50 mg. a day—occasionally up to 100 milligrams. Treatment was continued in some cases for 17 weeks. Response was classified as good for the palliative purposes for which the drug was given.

Dosage and course of therapy

Massive initial suppressive doses of 40 to 50 mg. per day in children (1 mg./kg./day) and up to 100 mg. a day in adults have been administered.

Responses to any specific dosage in these conditions vary so widely that only a general dosage range can be indicated. Treatment must be individualized; rate of reduction in dosage and determination of maintenance levels cannot be categorized.

Miscellaneous

Patients with various other diseases have been treated by several clinical investigators. These include patients with osteoarthritis, acute bursitis, rheumatic fever, spondylitis, other "collagen-vascular" diseases (dermatomyositis, etc.), thrombocytopenic purpura, chronic eosinophilia, hemolytic anemia, diuretic-resistant congestive heart failures, and adrenogenital syndrome.

There have not been sufficient patients in any of the above categories to permit definitive treatment schedules to be finally established for ARISTOCORT. Additional studies are now in progress and physicians desiring information on any of these diseases are requested to write to Lederle Laboratories, Pearl River, New York for available data.

ARISTOCORT is available in 2 mg. scored tablets (pink); 4 mg. scored tablets (white). Bottles of 30.

Bibliography

1. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Presented at Nephrosis Conf., Bethesda, Md., Oct. 26, 1957. 2. Ibid: Personal Communication. 3. Barach, A. L: Personal Communication. 4. Segal, M. S.: Personal Communication. 5. Cooke, R. A.: Personal Communication. 6. Farber, S.: Personal Communication. 7. Hellman, L., Diamond, H. D., Ellison, R., Jaslowitz, B., Murphy, M. L., Tan, C. and Zumoff, B.: Personal Communication.

Lederle

The Promise of Aristocort

in Inflammatory and Allergic Skin Diseases

◊ *Over 200 patients with allergic and inflammatory skin diseases (including psoriasis, atopic dermatitis, exfoliative dermatitis, pemphigus, dermatitis herpetiformis, eczematoid dermatitis, contact dermatitis and angioneurotic edema) have been treated continuously with* ARISTOCORT *for periods of up to eight months.*

Results of treatment

Rein and associates[1] treated 26 patients with severe dermatitis. Twenty-four had been on prednisone when changed to ARISTOCORT. While some had found satisfactory symptomatic relief, others had also developed side effects—moon face, buffalo hump, increased appetite with excessive weight increases and gastro-intestinal disturbances.

These investigators determined the equivalent dosage of ARISTOCORT to be approximately two-thirds that required to control symptoms on the previous corticosteroid. Thirteen of the 26, who had developed moon face, noted either an actual decrease or no further increase when transferred to ARISTOCORT. In addition: *Voracious appetites disappeared, with loss of weight in 11 patients; there was no elevation in blood pressure, and no necessity to restrict sodium or administer supplemental potassium.* Sherwood and Cooke,[2] and Shelley and Pillsbury[3] obtained similar results in allied disorders.

Hollander[4] first observed that ARISTOCORT appears to have striking affinity for the skin and great activity in controlling such diseases as psoriasis, for which other corticosteroids have been indifferently effective. Shelley and Pillsbury,[3] in 50 cases of acute extending psoriasis found that over 60 per cent were markedly improved.

Dosage and course of therapy

The recommended initial suppressive dose range is 14 to 20 mg. per day. In very severe cases, temporary dosages up to 32 mg. a day have been successfully employed. Once lesions are suppressed, gradually reduce dose to the maintenance level—which may be as low as 2 mg. per day.

Bibliography

1. Rein, C. R., Fleischmajer, R., and Rosenthal, A.: J.A.M.A., *165*:1821, 1957. 2. Sherwood, H., and Cooke, R. A.: Personal Communication. 3. Shelley, W. B., and Pillsbury, D. M.: Personal Communication. 4. Hollander, J. L.: Discussion of Paper by Black, R. L., presented at International Congress on Rheumatic Diseases, Toronto, June 28, 1957.

in Disseminated Lupus Erythematosus

◊ *Forty patients with disseminated lupus erythematosus were treated with* ARISTOCORT *for continuous periods of up to nine months.*

Results of treatment

Patients have responded very promisingly to therapy. Dubois[1] has had the largest single experience (28 cases) with ARISTOCORT in the treatment of this disease. He reported 25 of the 28 responded favorably.

Freyberg,[2] Hartung,[3] Hollander,[4] Spies,[5] and Segal,[6] each in smaller series of cases, reported similarly good therapeutic responses.

Dosage and course of therapy

The initial suppressive dose recommended is 20-30 mg. daily. Once the desired effect is achieved, the dose should be reduced gradually to maintenance levels (3 to 18 mg. per day).

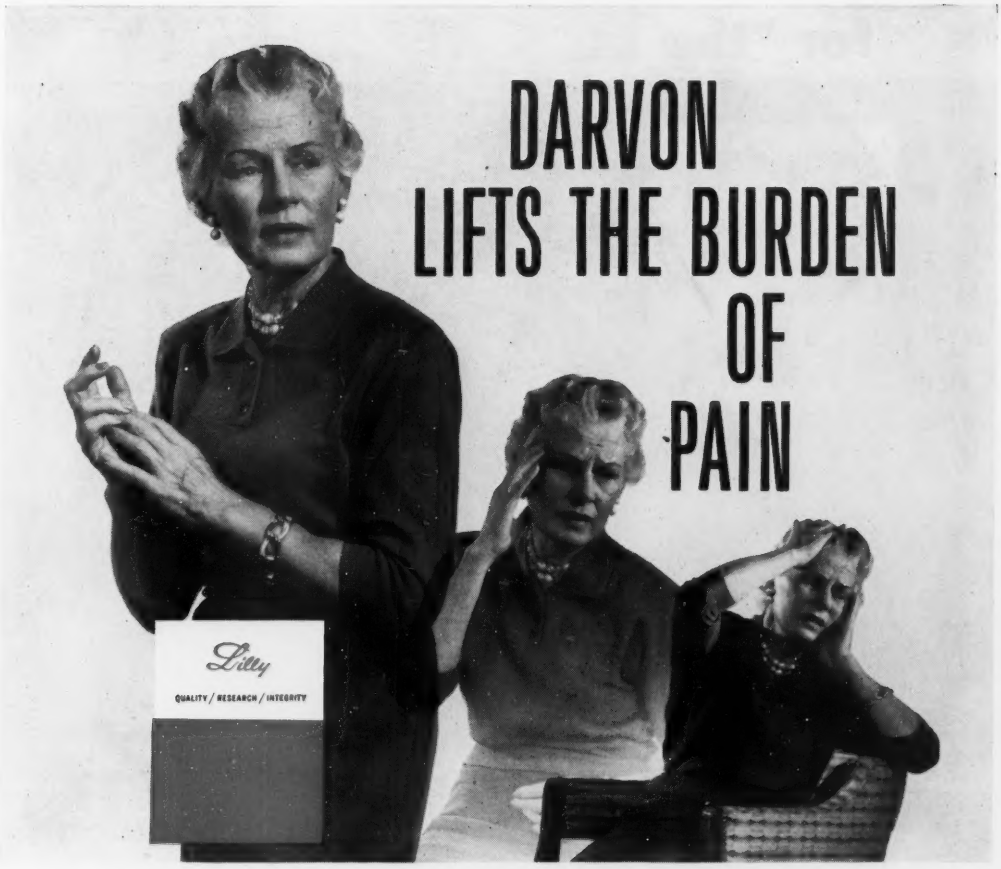
In severely ill patients large doses may be required for several days in order to preserve life. Even on these large doses, edema and sodium retention have not occurred.

ARISTOCORT is available in 2 mg. scored tablets (pink); 4 mg. scored tablets (white). Bottles of 30.

Bibliography

1. Dubois, E. L.: Personal Communication. 2. Freyberg, R. H.: Personal Communication. 3. Hartung, E. F.: Personal Communication. 4. Hollander, J. L.: Personal Communication. 5. Spies, T. D.: Personal Communication. 6. Segal, M. S.: Personal Communication.

Lederle



The non-narcotic analgesic with the potency of codeine

DARVON (Dextro Propoxyphene Hydrochloride, Lilly) is equally as potent as codeine yet is much better tolerated. Side-effects, such as nausea or constipation, are minimal. You will find 'Darvon' helpful in any condition associated with pain. The usual adult dose is 32 mg. every four hours or 65 mg. every six hours as needed. Available in 32 and 65-mg. pulvules.

DARVON COMPOUND (Dextro Propoxyphene and Acetylsalicylic Acid Compound, Lilly) combines the antipyretic and anti-inflammatory benefits of 'A.S.A. Compound'* with the analgesic properties of 'Darvon.' Thus, it is useful in relieving pain associated with recurrent or chronic disease, such as neuralgia, neuritis, or arthritis, as well as acute pain of traumatic origin. The usual adult dose is 1 or 2 pulvules every six hours as needed.

Each Pulvule 'Darvon Compound' provides:

'Darvon'	*32 mg.*
Acetophenetidin	*162 mg.*
'A.S.A.' (Acetylsalicylic Acid, Lilly)	*227 mg.*
Caffeine	*32.4 mg.*

*'A.S.A. Compound' (Acetylsalicylic Acid and Acetophenetidin Compound, Lilly)

Lilly
POLIO VACCINE

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.

820320

The Promise of Aristocort

in Inflammatory and Allergic Skin Diseases

◯ *Over 200 patients with allergic and inflammatory skin diseases (including psoriasis, atopic dermatitis, exfoliative dermatitis, pemphigus, dermatitis herpetiformis, eczematoid dermatitis, contact dermatitis and angioneurotic edema) have been treated continuously with* ARISTOCORT *for periods of up to eight months.*

Results of treatment

Rein and associates[1] treated 26 patients with severe dermatitis. Twenty-four had been on prednisone when changed to ARISTOCORT. While some had found satisfactory symptomatic relief, others had also developed side effects—moon face, buffalo hump, increased appetite with excessive weight increases and gastro-intestinal disturbances.

These investigators determined the equivalent dosage of ARISTOCORT to be approximately two-thirds that required to control symptoms on the previous corticosteroid. Thirteen of the 26, who had developed moon face, noted either an actual decrease or no further increase when transferred to ARISTOCORT. In addition: *Voracious appetites disappeared, with loss of weight in 11 patients; there was no elevation in blood pressure, and no necessity to restrict sodium or administer supplemental potassium.* Sherwood and Cooke,[2] and Shelley and Pillsbury[3] obtained similar results in allied disorders.

Hollander[4] first observed that ARISTOCORT appears to have striking affinity for the skin and great activity in controlling such diseases as psoriasis, for which other corticosteroids have been indifferently effective. Shelley and Pillsbury,[3] in 50 cases of acute extending psoriasis found that over 60 per cent were markedly improved.

Dosage and course of therapy

The recommended initial suppressive dose range is 14 to 20 mg. per day. In very severe cases, temporary dosages up to 32 mg. a day have been successfully employed. Once lesions are suppressed, gradually reduce dose to the maintenance level—which may be as low as 2 mg. per day.

Bibliography

1. Rein, C. R., Fleischmajer, R., and Rosenthal, A.: J.A.M.A., *165*:1821, 1957. 2. Sherwood, H., and Cooke, R. A.: Personal Communication. 3. Shelley, W. B., and Pillsbury, D. M.: Personal Communication. 4. Hollander, J. L.: Discussion of Paper by Black, R. L., presented at International Congress on Rheumatic Diseases, Toronto, June 28, 1957.

in Disseminated Lupus Erythematosus

◯ *Forty patients with disseminated lupus erythematosus were treated with* ARISTOCORT *for continuous periods of up to nine months.*

Results of treatment

Patients have responded very promisingly to therapy. Dubois[1] has had the largest single experience (28 cases) with ARISTOCORT in the treatment of this disease. He reported 25 of the 28 responded favorably.

Freyberg,[2] Hartung,[3] Hollander,[4] Spies,[5] and Segal,[6] each in smaller series of cases, reported similarly good therapeutic responses.

Dosage and course of therapy

The initial suppressive dose recommended is 20-30 mg. daily. Once the desired effect is achieved, the dose should be reduced gradually to maintenance levels (3 to 18 mg. per day).

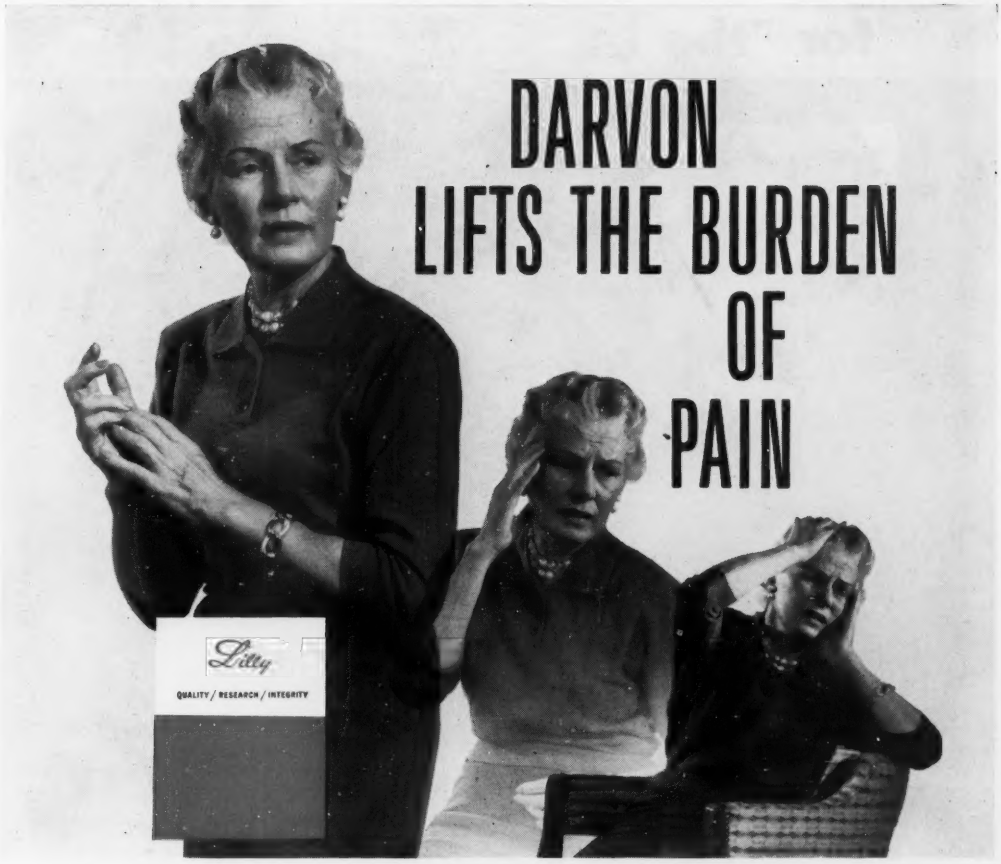
In severely ill patients large doses may be required for several days in order to preserve life. Even on these large doses, edema and sodium retention have not occurred.

ARISTOCORT is available in 2 mg. scored tablets (pink); 4 mg. scored tablets (white). Bottles of 30.

Bibliography

1. Dubois, E. L.: Personal Communication. 2. Freyberg, R. H.: Personal Communication. 3. Hartung, E. F.: Personal Communication. 4. Hollander, J. L.: Personal Communication. 5. Spies, T. D.: Personal Communication. 6. Segal, M. S.: Personal Communication.

Lederle



The non-narcotic analgesic with the potency of codeine

DARVON (Dextro Propoxyphene Hydrochloride, Lilly) is equally as potent as codeine yet is much better tolerated. Side-effects, such as nausea or constipation, are minimal. You will find 'Darvon' helpful in any condition associated with pain. The usual adult dose is 32 mg. every four hours or 65 mg. every six hours as needed. Available in 32 and 65-mg. pulvules.

DARVON COMPOUND (Dextro Propoxyphene and Acetylsalicylic Acid Compound, Lilly) combines the antipyretic and anti-inflammatory benefits of 'A.S.A. Compound'* with the analgesic properties of 'Darvon.' Thus, it is useful in relieving pain associated with recurrent or chronic disease, such as neuralgia, neuritis, or arthritis, as well as acute pain of traumatic origin. The usual adult dose is 1 or 2 pulvules every six hours as needed.

Each Pulvule 'Darvon Compound' provides:

'Darvon'	*32 mg.*
Acetophenetidin	*162 mg.*
'A.S.A.' (Acetylsalicylic Acid, Lilly)	*227 mg.*
Caffeine	*32.4 mg.*

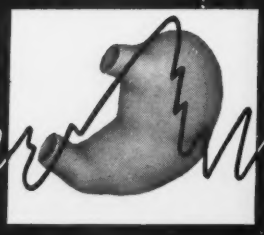
*'A.S.A. Compound' (Acetylsalicylic Acid and Acetophenetidin Compound, Lilly)

Lilly POLIO VACCINE

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.

B20325

for "the butterfly stomach"



Pavatrine® with Phenobarbital

125 mg. 15 mg.

- *is an effective dual antispasmodic*
- *combining musculotropic and neurotropic action with mild central nervous system sedation.*

dosage: one tablet before each meal and at bedtime. SEARLE

---

release from pain and inflammation with **BUFFERIN®** IN ARTHRITIS

salicylate benefits with minimal salicylate drawbacks

Rapid and prolonged relief – with less intolerance. The analgesic and specific anti-inflammatory action of BUFFERIN helps reduce pain and joint edema–comfortably. BUFFERIN caused no gastric distress in 70 per cent of hospitalized arthritics with proved intolerance to aspirin. (Arthritics are at least 3 to 10 times as intolerant to straight aspirin as the general population.[1])

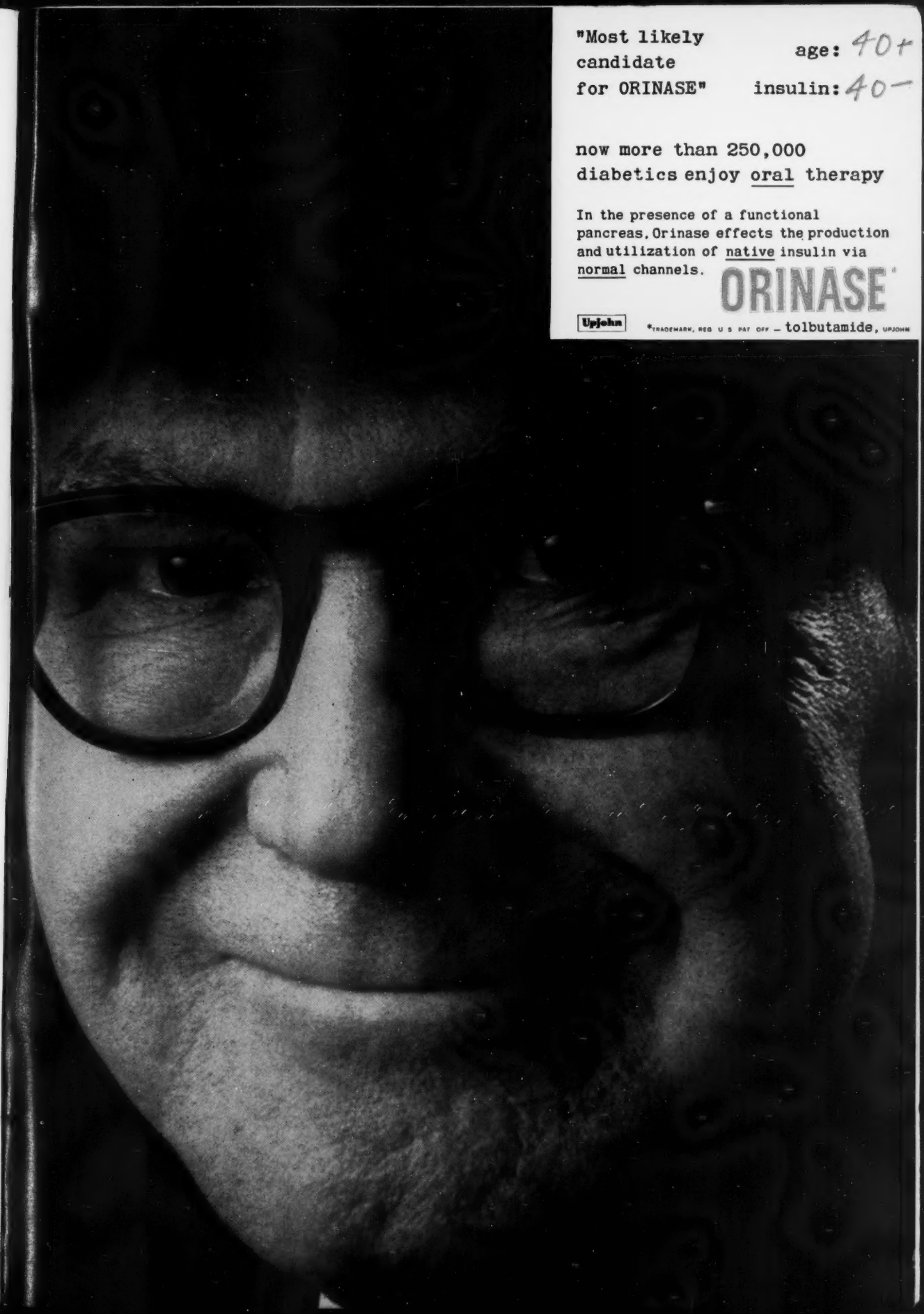
No sodium accumulation. Because BUFFERIN is sodium free, massive dosage for prolonged periods will not cause sodium accumulation or edema, even in cardiovascular cases.

Each *sodium-free* BUFFERIN tablet contains acetylsalicylic acid, 5 grains, and the antacids magnesium carbonate and aluminum glycinate.

Reference: 1. J.A.M.A. 158: 386 (June 4) 1955.

ANOTHER FINE PRODUCT OF BRISTOL-MYERS

Bristol-Myers Company
19 West 50 St., New York 20, N. Y


"Most likely
candidate
for ORINASE"
age: 40+
insulin: 40-
now more than 250,000
diabetics enjoy oral therapy
In the presence of a functional
pancreas, Orinase effects the production
and utilization of native insulin via
normal channels.
ORINASE*
Upjohn
*TRADEMARK, REG U S PAT OFF – tolbutamide, UPJOHN

TUTAG

Geritag

in

PREVENTIVE GERIATRICS a FIRST from TUTAG!

Now — 20 to 1 Androgen-Estrogen (activity) ratio*!

Each Magenta Soft Gelatin Capsule contains:

Methyltestosterone	2 mg.	Thiamine Hcl.	2 mg.
Ethinyl Estradiol	0.01 mg.	Riboflavin	2 mg.
Ferrous Sulfate	50 mg.	Pyridoxine Hcl.	0.3 mg.
Rutin	10 mg.	Niacinamide	20 mg.
Ascorbic Acid	30 mg.	Manganese	1 mg.
B-12	1 mcg.	Magnesium	5 mg.
Molybdenum	0.5 mg.	Iodine	0.15 mg.
Cobalt	0.1 mg.	Potassium	2 mg.
Copper	0.2 mg.	Zinc	1 mg.
Vitamin A	5,000 I.U.	Choline Bitartrate	40 mg.
Vitamin D	400 I.U.	Methionine	20 mg.
Vitamin E	1 I.U.	Inositol	20 mg.
Cal. Pantothenate	3 mg.		

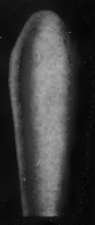
Write for Latest Technical Bulletins.

*REFERENCE: J.A.M.A. 163: 359, 1957 (February 2)

S. J. TUTAG & COMPANY TUTAG DETROIT 34, MICHIGAN

Treat the Entire Hemorrhoidal Syndrome with

PNS® *rectal suppositories*



ANESTHETIC - Pontocaine® HCl (10 mg.)
—prolongs surface analgesia without irritation.

DECONGESTANT - Neo-Synephrine® HCl (5 mg.)
—reduces swelling and engorgement promptly—for extended periods.

ANTI-INFECTIVE - Sulfamylon® HCl (200 mg.)
—is effective against both gram-positive and negative bacteria.

— Supplied in boxes of 12 —

PNS. Pontocaine (brand of tetracaine), Neo-Synephrine (brand of phenylephrine) and Sulfamylon (brand of marfenide) trademarks reg. U.S. Pat. Off.

Winthrop LABORATORIES NEW YORK 18, N. Y.

CLINICAL CONFERENCE
Mississippi Valley Medical Society

(The Mid-West's Greatest, Intensive Post-Graduate Medical Assembly)
23rd ANNUAL MEETING

HOTEL MORRISON, CHICAGO, SEPT. 24-25-26, 1958

OVER 40 CLINICAL SPEAKERS
PROGRAM GEARED TO GENERAL PRACTITIONERS AND GENERAL SURGEONS
PANELS ON TIMELY TOPICS
BIG SCIENTIFIC AND TECHNICAL EXHIBIT HALL
MEETING and MEMBERSHIP OPEN TO ALL STATE SOCIETY MEMBERS
SOCIETY IS NON-PROFIT WITH NO PAID OFFICERS

Plan now to attend and make reservations at Hotel Morrison.

Write for preliminary program to

MISSISSIPPI VALLEY MEDICAL SOCIETY (Est. 1935)

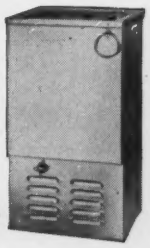
(Post-Graduate Medical Society of
ILL., IA., KAN., MINN., MO., NEB., N.D., S.D., WIS.)

Harold Swanberg, M.D., Secretary, W.C.U. Bldg., Quincy, Ill.

Make sparkling radiographs...
order fresh SUPERMIX® TODAY

SUPERMIX LIQUIDS	DEVELOPER	REFRESHER	STAIN-LESS FIXER*	SPEED FIXER
26 oz. makes 1 gal.	$1.42	$1.42	$1.22	$1.27
12 or more, each	1.28	1.28	1.10	1.14
80 oz. makes 3 gal.	3.84			3.52
4 or more, each	3.46			3.17
1 gal. makes 5 gal.	5.07	5.07	4.25	4.61
4 or more, each	4.56	4.56	3.83	4.15

*Comes in 1 and 5 qt. only, to make 1 and 5 gal. of solution.



• Stainless-steel processing tanks are no longer a luxury . . . Ask us for details on economical G-E "5-15-5" models.

Your one-stop direct source for the

FINEST IN X-RAY
apparatus... service... supplies

DIRECT FACTORY BRANCH
KANSAS CITY, MO.
112 W. 19th St. • VIctor 2-1080

RESIDENT REPRESENTATIVES
TOPEKA
J. W. HELLER
710 Pk. Lane • Phone 6324
WICHITA
F. C. LISCUM
2418 Wilma • Phone 7-1053

Of course, *women like "Premarin"*

Therapy for the menopause syndrome should relieve not only the psychic instability attendant the condition, but the vasomotor instability of estrogen decline as well. Though they would have a hard time explaining it in such medical terms, this is the reason women like "Premarin."

Doctors, too, like "Premarin," because it really relieves the symptoms of the menopause. It doesn't just mask them – it replaces what the patient lacks – natural estrogen.

"PREMARIN"®
conjugated estrogens (equine)

Ayerst Laboratories • New York 16, New York • Montreal, Canada

5840

NEW *"flavor-timed" dual-action*
CORONARY VASODILATOR

Dilcoron TRADEMARK

ORAL (tablet swallowed whole)
for dependable prophylaxis
SUBLINGUAL-ORAL
for immediate and sustained relief
of **ANGINA PECTORIS**

NITROGLYCERIN—
0.4 mg. (1/150 grain)—acts quickly

CITRUS "FLAVOR-TIMER"—
signals patient when to swallow

PENTAERYTHRITOL TETRANITRATE—
15 mg. (1/4 grain)—prolongs action

For continuing prophylaxis patient swallows the entire Dilcoron tablet.
Average prophylactic dose:
1 tablet four times daily.
Therapeutic dose:
1 tablet held under the tongue until citrus flavor disappears, then swallowed.

Bottles of 100.

Winthrop LABORATORIES NEW YORK 18, N. Y.

it's convenient to buy

OXYGEN THERAPY EQUIPMENT

FOR THE OUT PATIENT

ALL THE NECESSARY EQUIPMENT — REGULATORS, HUMIDIFIERS, FLOWMETERS, CATHETERS, MASKS, CANNULAS — INCLUDING HIGH PURITY OXYGEN FOR THE TREATMENT OF THE OUT PATIENT.

RENTAL OR PURCHASE

REGULAR TRUCK DELIVERY SERVICE THROUGHOUT KANSAS

KANSAS OXYGEN, INCORPORATED

P. O. BOX 551 • HUTCHINSON, KANSAS • PHONE MOHAWK 5-5551

The purity, the wholesomeness, the quality of Coca-Cola as refreshment has helped make Coke the best-loved sparkling drink in all the world.

DRINK Coca-Cola REG. U.S. PAT. OFF.

SIGN OF GOOD TASTE

Service to Doctors of Medicine

General medical supplies

Surgical garment fitting department

Equipment repairs

Equipment rentals for patients

Munns Medical Supply Co.

Tenth & Horne
Topeka, Kans.

Telephone
5-5383

Deformity Appliances of Quality

Orthopedic and Surgical Appliances

Artificial Limbs
Trusses

Abdominal Supports

Elastic Hosiery

Foot Supports

Surgical Corsets

Taylor Back Brace
Made to Order in
Our Own Factory

P. W. HANICKE MFG. CO.
1009 McGee St. VI 2-4750
KANSAS CITY, MO.

BACK THE ATTACK On Traffic Accidents WITH THESE SPEED RULES

- Drive at a speed that will enable you to stop in the assured clear distance ahead.
- Slow down before you get to curves and intersections.
- At night, drive at the speed which will let you stop within your headlight range.
- Drive with traffic. You are probably going too fast if you are passing many cars—too slow if many are passing you. Where children are playing, be able to stop in a car length or less.
- When you're tired or inattentive, stop.

Malpractice Prophylaxis

AVOIDING
CONJECTURAL CRITICISM

Specialized Service makes our doctor safer

THE
MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

Professional Protection Exclusively since 1899

KANSAS CITY Office:
R. E. McCurdy, Rep.
2020 Olathe Blvd., Apt. 305
Tel. Yellowstone 2-8929
(If no answer, call Logan 1-1498)

CAMP

surgical supports

complete stock for men & women

- graduate fitters
- hospital fittings
- special supports made to order

The W. E. ISLE COMPANY
1121 GRAND . . . PHONE BA 1-0206
Kansas City 6, Mo.

Prairie View Hospital

Newton, Kansas

Emphasizing a therapeutic milieu and psychotherapy. A non-profit psychiatric service of the Mennonite Central Committee.

THE LATTIMORE-FINK LABORATORIES

Topeka — El Dorado
Kansas

J. L. Lattimore, A.B., M.D., Pathologist
A. A. Fink, A.B., M.D., Pathologist
Ralph S. McCants, A.B., M.D., Pathologist
H. C. Ebendorf, M.T., Serologist
A. C. Keith, B.S., Chemist
L. W. Hull, A.B., Bacteriologist
Walter Norris, A.B., Chemist

Anatomical and Clinical Pathology

Containers Furnished Upon Request

Protection Against Loss of Income From Accident and Sickness as Well as Hospital Expense Benefits for You and All Your Eligible Dependents.

ALL PREMIUMS COME FROM PHYSICIANS SURGEONS DENTISTS ALL BENEFITS GO TO

PHYSICIANS CASUALTY & HEALTH ASSOCIATIONS
OMAHA 31, NEBRASKA
Since 1902

Everything for the Laboratory

SOUTHWEST SCIENTIFIC CORPORATION

LABORATORY SUPPLIES AND EQUIPMENT

122 South St. Francis Street
Phone 2-0582 Wichita, Kansas

RENTALS ★ SALES

HOSPITAL BEDS WHEEL CHAIRS
INVALID LIFTS INVALID WALKERS

★ BRACE SHOP ★

Certified orthotist and skilled technicians on duty at all times

PETRO'S SURGICAL APPLIANCES
618-20 Quincy Topeka, Kans. Ph. CE-40207

Historical Material Needed

In preparation for the observance of The Kansas Medical Society's centennial anniversary, members of the Committee on History are attempting to collect all material of historical interest. Physicians who can contribute information, records, etc., are urged to send such to

Committee on History
Kansas Medical Society
315 West 4th Street
Topeka, Kansas

Index to Advertisers

Ames Company, Inc. 29
Ayerst Laboratories 44

Bristol-Myers Company 40
Burroughs Wellcome and Company ..... 23 and 28

Ciba Pharmaceutical Products, Inc. 21
Coca-Cola Company 45

General Electric X-ray Department 43

Hanicke, P. W., Manufacturing Company 46
Health-Mor, Inc. 13

Isle, W. E., Company 47

Kansas Oxygen, Inc. 45

Lakeside Laboratories, Inc. 5
Lattimore-Fink Laboratories 47
Lederle Laboratories 16, 17, center section, and facing 38
Lilly, Eli, and Company ..... 24 and 39

Medical Protective Company 47
Merck, Sharp and Dohme, Inc.
..... 10, 11, 14, 15, 30, 31, 34, 36, and 37
Mississippi Valley Medical Society 43
Munns Medical Supply Company, Inc. 46

Neurological Hospital 48

Parke, Davis and Company ..... Inside front cover and 3
Petro's Surgical Appliances 48
Pfizer Laboratories ..... 26 and 27
Physicians Casualty Association 47
Prairie View Hospital 47

Ralph Clinic ..... Center section
Riker Laboratories ..... Inside back cover
Robins, A. H., Company, Inc. ..... 9, 12, 18, and 19
Roerig, J. B., and Company, Inc. ..... 20, 32, 33, and 38

Schering Corporation ..... Facing 12
Searle, G. D., and Company ..... 7, 25, and 40
Seven-Up Bottling Company ..... Center section
Smith-Dorsey 8
Smith, Kline and French Laboratories ..... Back cover
Southwest Scientific Corporation 48
Squibb, E. R., and Sons 22

Tutag, S. J., and Company 42

Upjohn Company 41

Wallace Laboratories ..... 6 and facing 20
Winthrop Laboratories ..... 35, 42, and 44

The Neurological Hospital

2625 West Paseo,

KANSAS CITY, MISSOURI

★ ★ ★

A voluntary hospital providing the care and treatment of nervous and mental patients and associate conditions.

Many such hypertensives have been on *Rauwiloid* for 3 years and more*

for Rauwiloid IS better tolerated... "alseroxylon [Rauwiloid] is an antihypertensive agent of equal therapeutic efficacy to reserpine in the treatment of hypertension but with significantly less toxicity."

*Ford, R.V., and Moyer, J.H.: Rauwolfia Toxicity in the Treatment of Hypertension, Postgrad. Med. *23*:41 (Jan.) 1958.

For gratifying Rauwolfia response

Rauwiloid®

ALSEROXYLON, U.S.P.

virtually free from side actions

Enhances safety when more potent drugs are needed.

Rauwiloid® + Veriloid®
alseroxylon 1 mg. and alkavervir 3 mg.
for moderate to severe hypertension.
Initial dose, 1 tablet t.i.d., p.c.

Rauwiloid® + Hexamethonium
alseroxylon 1 mg. and hexamethonium chloride dihydrate 250 mg.
in severe, otherwise intractable hypertension. Initial dose, ½ tablet q.i.d.

Both combinations in convenient single-tablet form.

just two tablets at bedtime
After full effect one tablet suffices

Riker
LOS ANGELES

Stormont Medical Library,
State House,
Topeka, Kansas

premenstrual tension

responds very well to Compazine*

- agitation and apprehension are promptly relieved
- emotional stability is considerably improved
- nervous tension and fatigue are greatly reduced
- appetite and sleep patterns improve
- depression often disappears

For prophylaxis: 'Compazine' Spansule† capsules provide all-day or all-night relief of anxiety with a single oral dose. *Also available:* Tablets, Ampuls, Multiple dose vials, Syrup and Suppositories.

Smith Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off. for prochlorperazine, S.K.F.
†T.M. Reg. U.S. Pat. Off. for sustained release capsules, S.K.F.